



North Carolina Turnpike Authority

*Board of Directors  
Finance Committee Meeting*

June 30, 2016



# *Today's Agenda*

- Executive Director Comments
  - Purpose & Goals
  - Election of Committee Chair (Action)
  - Proposed 2016 Committee Meeting Dates (Action)
- Triangle Expressway
  - OHSARI Toll Rate Schedule (Action)
- Monroe Expressway
  - Engineering Report Overview
  - 2016 T&R Study Results
  - Security Structure & Plan of Finance Update
  - Financing & Bond Document Overview
  - Review of LGC Application Resolution (Action)



## *Executive Director Comments*

# Beau Memory

Executive Director



## *Purpose & Goals*

To support the Board in responsibly executing its powers with regard to the financing of Turnpike Projects:

- The power to fix, revise, charge, and collect tolls and fees for the use of the Turnpike Projects pursuant to NCGS §136-89.183 (a) (5);
- To issue bonds or notes of the NCTA pursuant to NCGS §136-89.183(a)(6);
- To invest the proceeds of bonds or notes of the NCTA that are pending disbursement or other idle funds of the Authority in any investment authorized by NCGS §159-30 pursuant to NCGS §136-89.183 (6a); and
- To exercise such additional powers as shall be necessary for the financing of Turnpike Projects through compliance with the associated bond documentation, including complying with any arbitrage, rebate or other federal tax filings and providing for secondary market disclosure; provided any such additional power may be subjected to conditions, including the involvement and participation of other portions of the North Carolina Department of Transportation, which are stated within the bond documentation and executed by the Secretary acting as the Secretary.



# *Proposed 2016 Committee Meeting Dates*

- Finance Committee:

- September 8, 2016
- October 6, 2016
- December 1, 2016

- Full Board:

- August 4, 2016
- November 3, 2016



# *Triangle Expressway – OHSARI Toll Rate Schedule*

Leslie Johnson

CDM Smith



# Old Holly Springs-Apex Road Interchange Toll Schedule Recommendation

*June 30, 2016*



**CDM  
Smith®**

**Durham Co.**

Research Triangle Park

Raleigh-Durham Airport

**LEGEND**

- Triangle Expressway
- Ramp
- Toll Zone
- Mainline
- Toll Zone
- Proposed Interchange

**Old Holly Springs - Apex Rd. Interchange**

*Inset*

*See Inset*

Old US 1

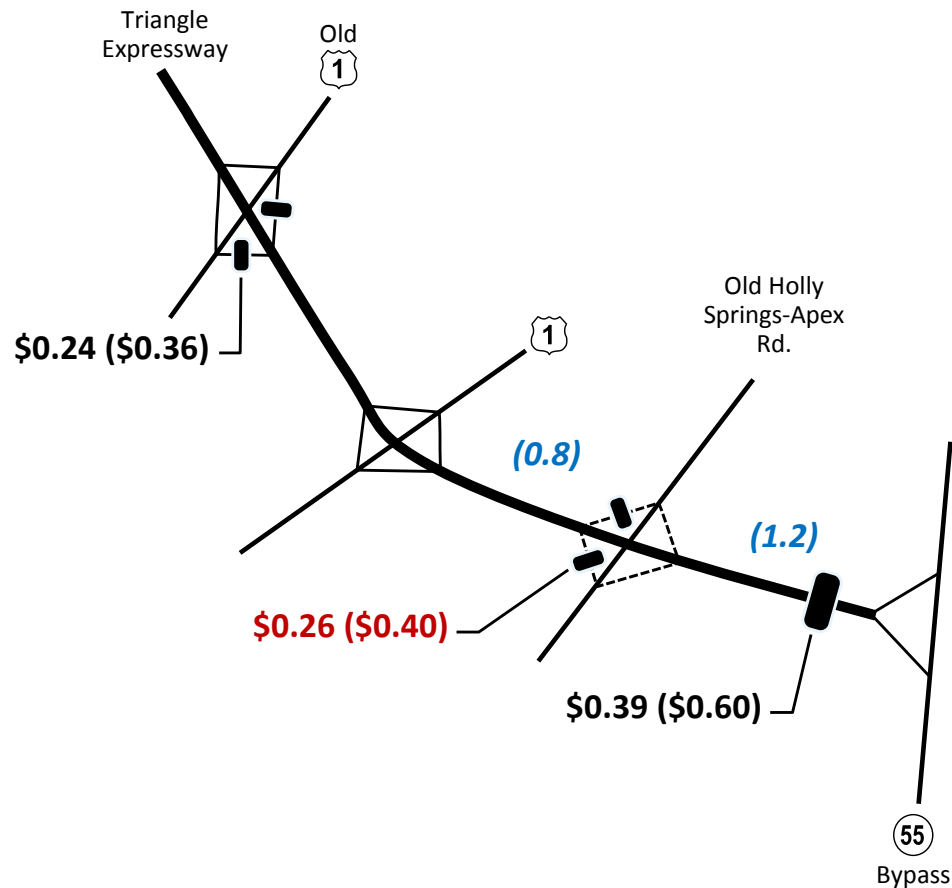
BYP

Old Holly Springs - Apex Rd.

North Arrow



# 2016 Toll Rate Recommendations for OHSARI Toll Zones and Existing 2016 Toll Rates for Adjacent Toll Zones



## LEGEND

— Ramp Toll Zone

— Mainline Toll Zone

**(0.0)** — Distance Between Interchanges (Miles)

### Class 1 Toll Rate

NCQP

Bill by Mail

**\$0.00**   **(\$0.00)**   Existing

**\$0.00**   **(\$0.00)**   Proposed



# Old Holly Springs-Apex Road Interchange Toll Schedule Recommendation

- *Proposed OHSARI toll rates are consistent with current Triangle Expressway tolling conventions*
- *New Interchange and new toll zones will not affect current rate schedule for existing toll zones*
- *Proposed future OHSARI toll rate increases align with annual increases planned for existing Triangle Expressway toll zones*
- *Proposed rates will not negatively affect projected toll revenue impacts contained in prior CDM Smith OHSARI study*

Calendar Year	Class 1 (2-axes)		Class 2 (3-axes)		Class 3 (4 or more axes)	
	ETC	Bill by Mail	ETC	Bill by Mail	ETC	Bill by Mail
2016	\$ 0.26	\$ 0.40	\$ 0.52	\$ 0.80	\$ 1.04	\$ 1.60
2017	0.27	0.41	0.54	0.82	1.08	1.64
2018	0.28	0.43	0.56	0.86	1.12	1.72
2019	0.29	0.44	0.58	0.88	1.16	1.76
2020	0.30	0.46	0.60	0.92	1.20	1.84
2021	0.31	0.47	0.62	0.94	1.24	1.88
2022	0.32	0.49	0.64	0.98	1.28	1.96
2023	0.33	0.50	0.66	1.00	1.32	2.00
2024	0.34	0.52	0.68	1.04	1.36	2.08
2025	0.35	0.53	0.70	1.06	1.40	2.12
2026	0.36	0.55	0.72	1.10	1.44	2.20
2027	0.37	0.57	0.74	1.14	1.48	2.28
2028	0.38	0.58	0.76	1.16	1.52	2.32
2029	0.39	0.60	0.78	1.20	1.56	2.40
2030	0.40	0.62	0.80	1.24	1.60	2.48
2031	0.42	0.64	0.84	1.28	1.68	2.56
2032	0.43	0.66	0.86	1.32	1.72	2.64
2033	0.44	0.68	0.88	1.36	1.76	2.72
2034	0.45	0.70	0.90	1.40	1.80	2.80
2035	0.47	0.72	0.94	1.44	1.88	2.88
2036	0.48	0.73	0.96	1.46	1.92	2.92
2037	0.49	0.75	0.98	1.50	1.96	3.00
2038	0.49	0.76	0.98	1.52	1.96	3.04
2039	0.50	0.77	1.00	1.54	2.00	3.08
2040	0.51	0.79	1.02	1.58	2.04	3.16
2041	0.52	0.80	1.04	1.60	2.08	3.20
2042	0.52	0.81	1.04	1.62	2.08	3.24
2043	0.53	0.81	1.06	1.62	2.12	3.24
2044	0.53	0.82	1.06	1.64	2.12	3.28
2045	0.54	0.83	1.08	1.66	2.16	3.32
2046	0.54	0.83	1.08	1.66	2.16	3.32
2047	0.55	0.84	1.10	1.68	2.20	3.36
2048	0.55	0.85	1.10	1.70	2.20	3.40
2049	0.55	0.85	1.10	1.70	2.20	3.40
2050	0.56	0.86	1.12	1.72	2.24	3.44
2051	0.56	0.87	1.12	1.74	2.24	3.48

# *Monroe Expressway – Engineering Report Overview*

Donna Keener, P.E.

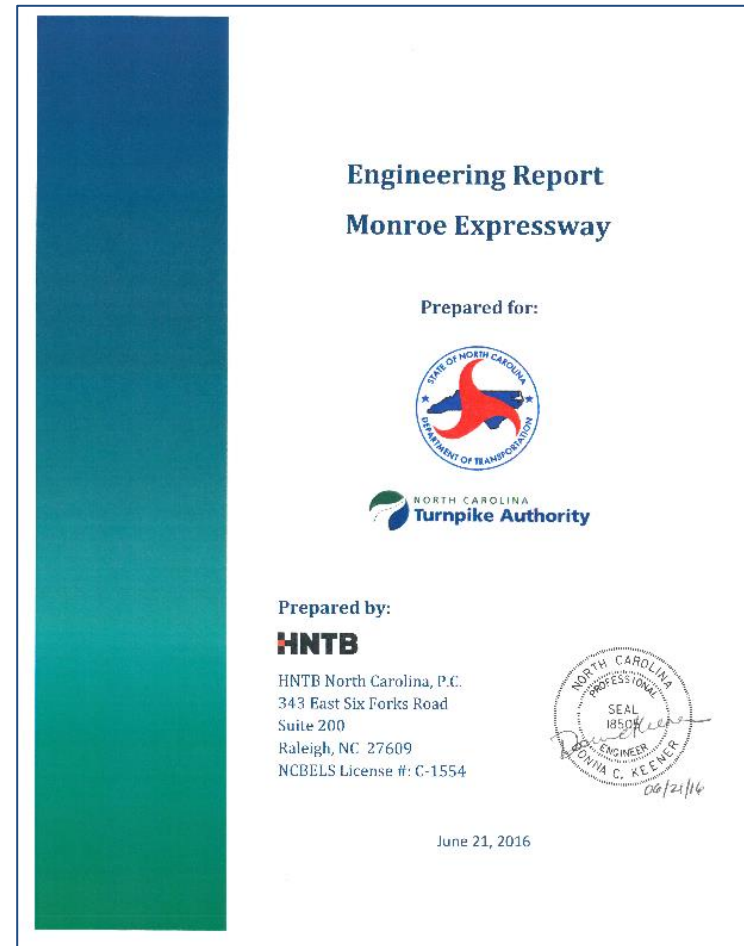
HNTB



# Monroe Expressway – Engineering Report Overview

## Report Overview

- Description (location, purpose)
- History
- Engineering Features
- Capital Costs
  - Construction
  - Right of Way
  - Utility Relocation
  - Toll Integration
  - Construction Management
  - Reserve Accounts
  - Contingency
- Schedule
- Operations & Maintenance Costs
- Repair & Rehabilitation Costs



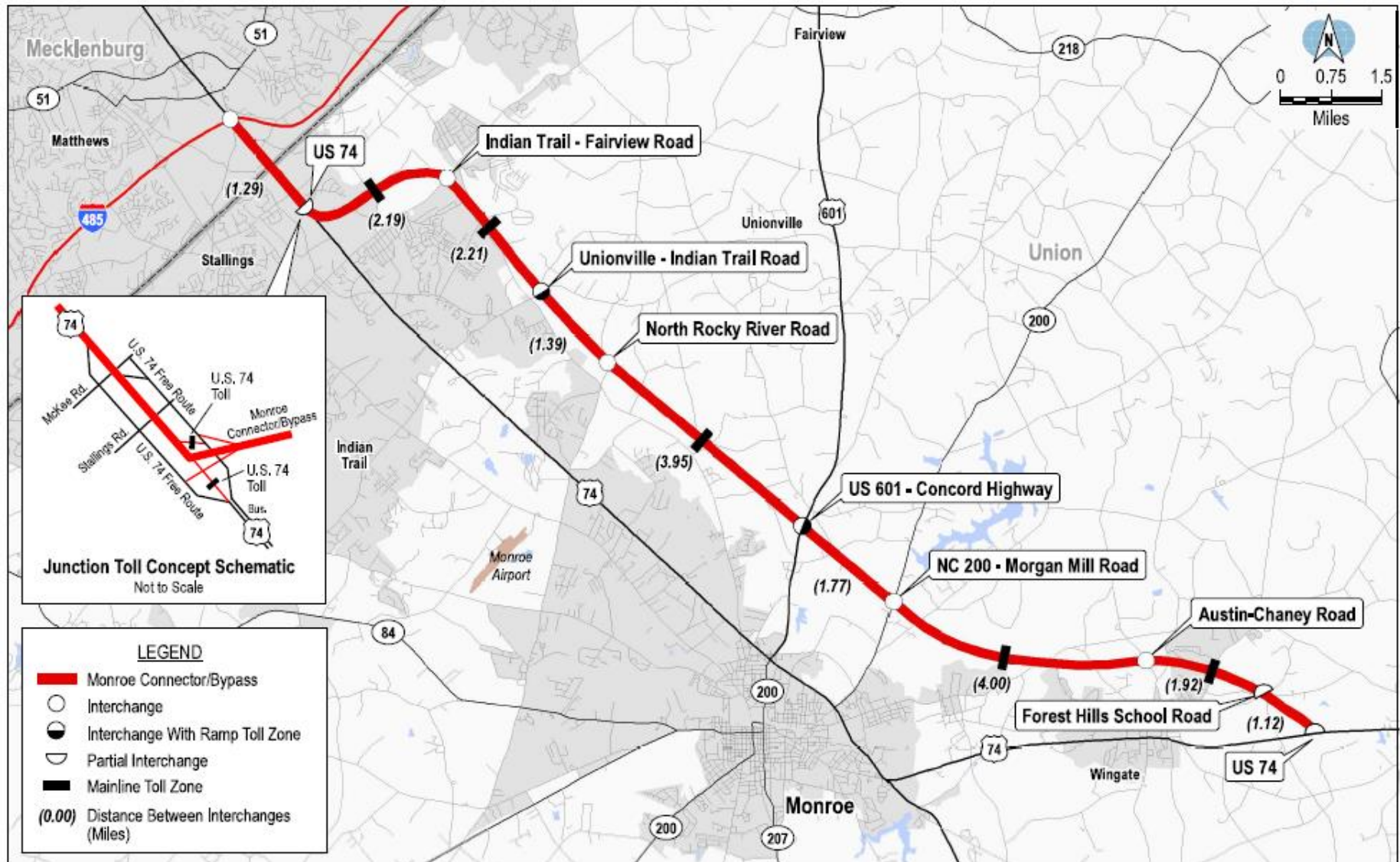
# *Monroe Expressway – Engineering Report Overview*

## Audience

- Rating Agencies
  - Moody's
  - S&P
- TIFIA Office
- Financial Advisor
  - Capital Costs Cash Flow
  - O&M/R&R Budget
- Official Statement for bond sale

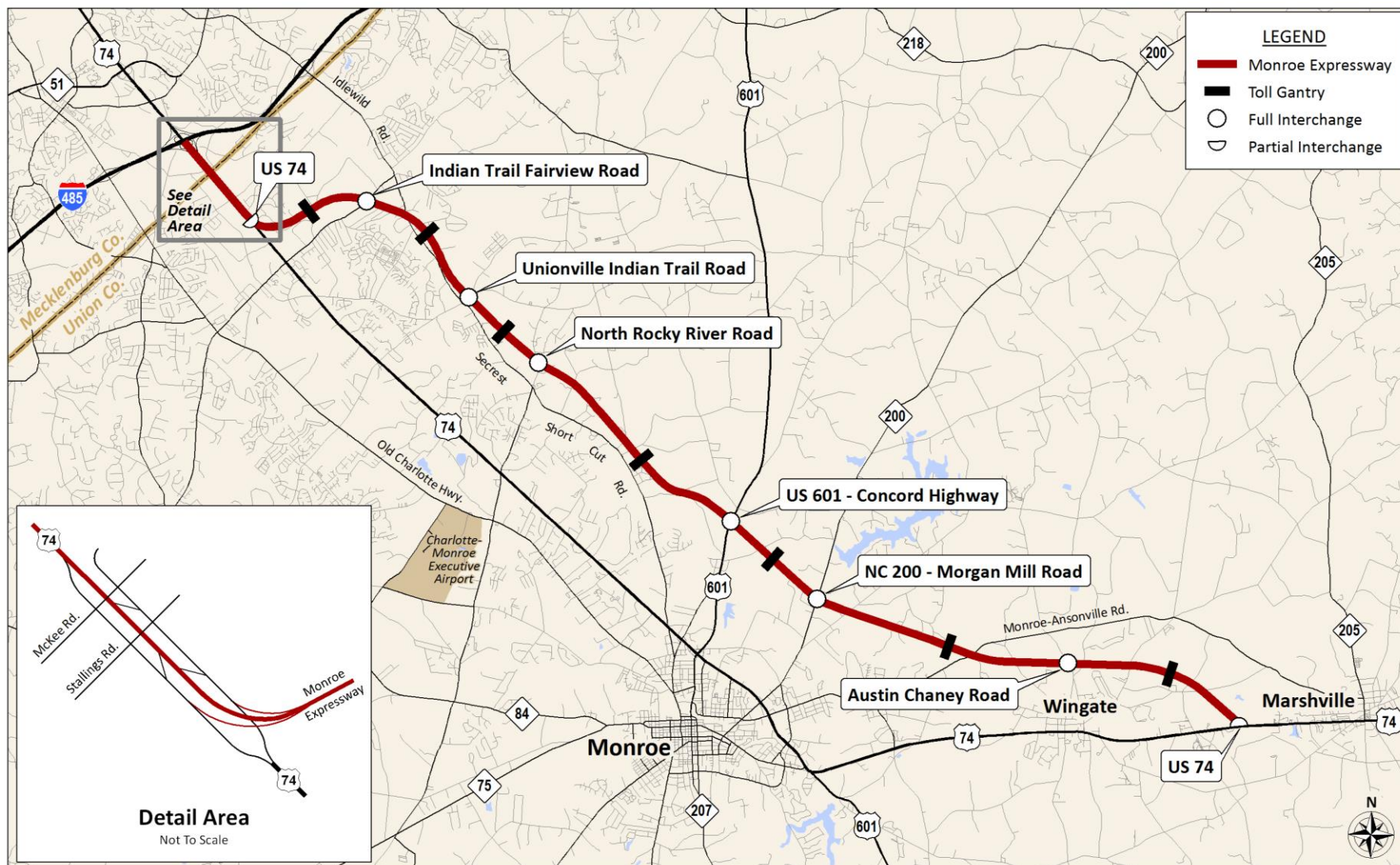


# 2010 Toll Concept





# 2016 Toll Concept



# *Monroe Expressway – Engineering Report Overview*

## 2016 Tolling Concept Benefits

- Operational and Safety Enhancements
  - Increased time for decision making
  - Simplified signing concept
- Enables toll equity on a per-mile basis
  - Eliminates minimum toll rates for short trips
  - Overall lower cost to user
- Tolling concept used in T&R study and Engineering Report





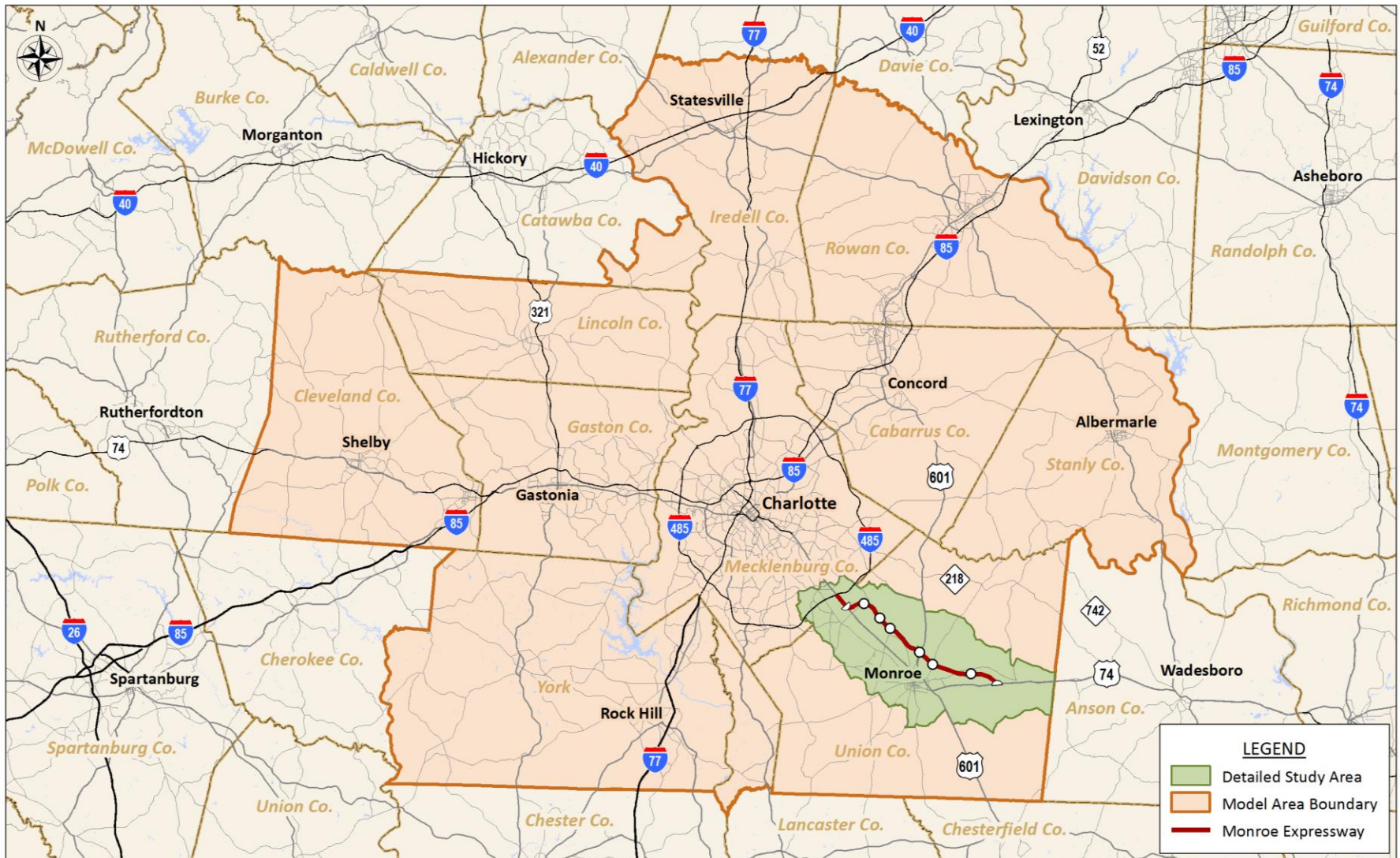
# *Monroe Expressway – 2016 T&R Study Results*

Leslie Johnson

CDM Smith

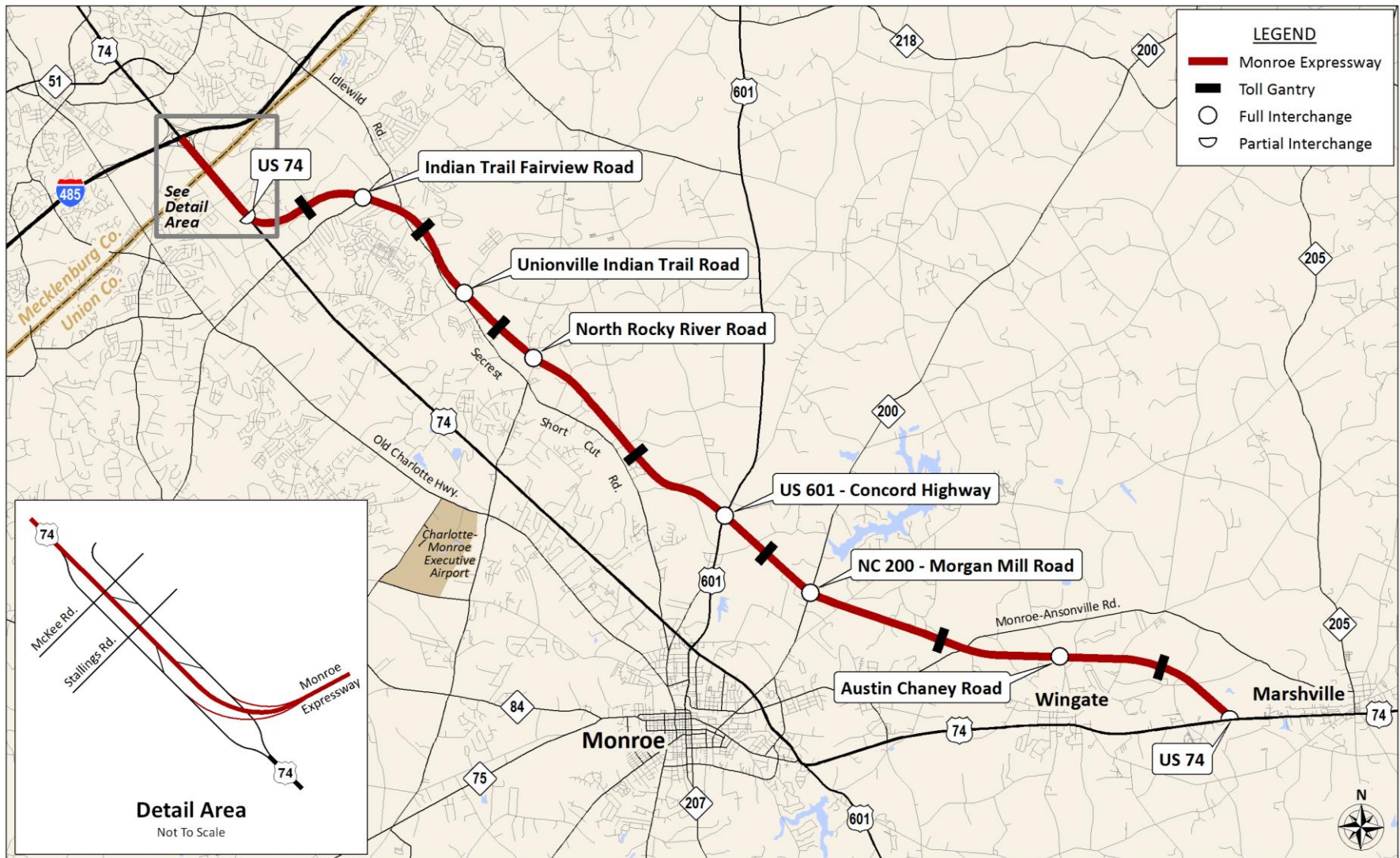


# Regional Location Map





# Project Alignment and Toll Concept



# *Project Overview*

- Assumed to Open on January 1, 2019
- All Electronic Tolling (AET) Facility - About 19.7 Miles Long
- Electronic and Video Toll Collection (ETC and VTC)
- Tolling on Mainline Sections
- ETC Receives a 35% Discount Off of VTC
- Three Toll Classes: 2Axle, 3 Axle, 4 or More Axle Vehicles
- Annual Toll Rate Increases are Assumed



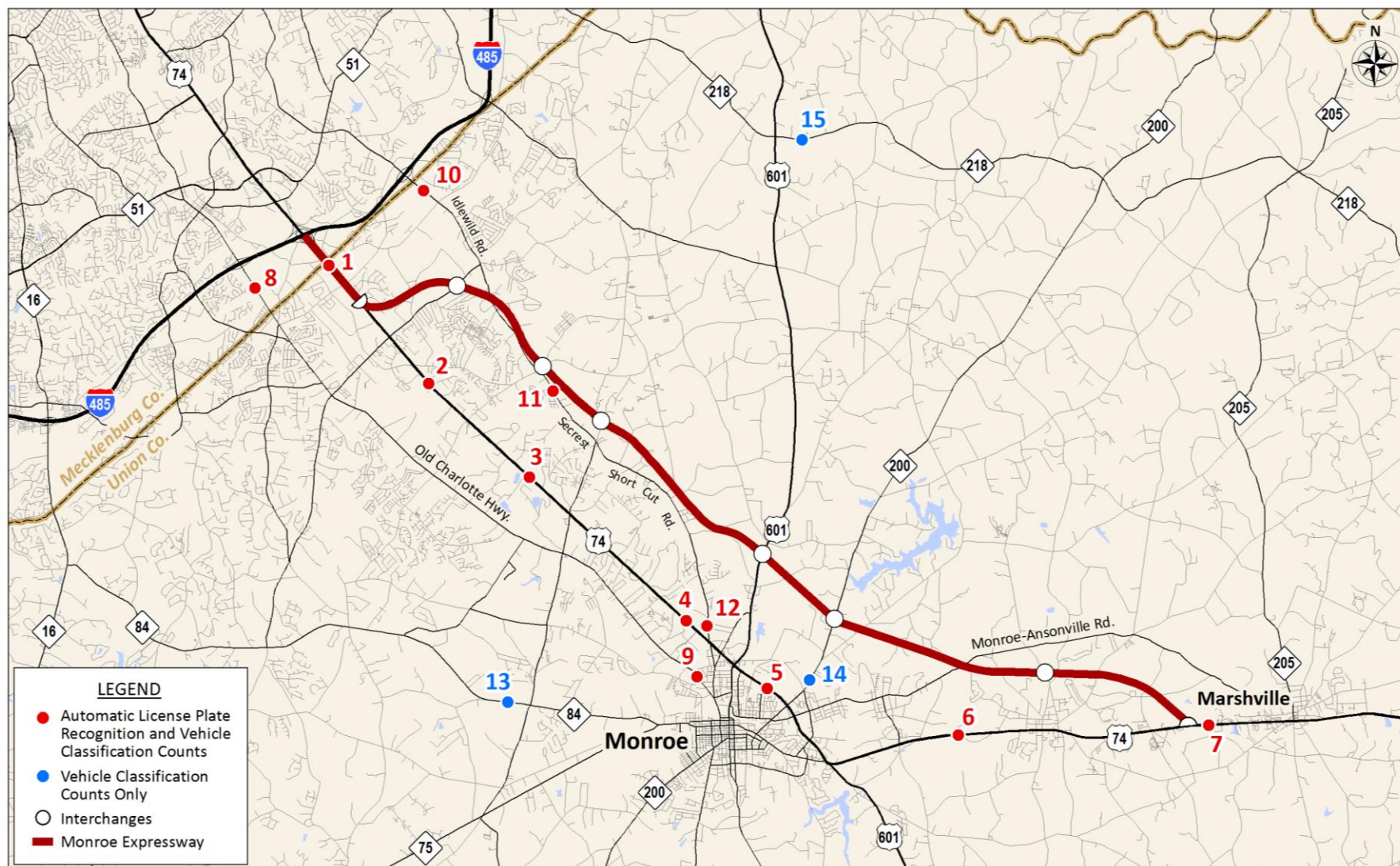
## *US 74 Current Conditions in Study Area*

- Currently a 4 to 6 Lane Arterial Highway
- Posted Speed Limit Ranges From 35 to 55 MPH
- 27 At-Grade Signalized Intersections
- Numerous Access Points (Driveways, Parking Lots, Turn Lanes, Intersections)
- Trucks Comprise 7 to 13% of Weekday Traffic
- Congestion and Slower Speeds Occur During Weekday Peak Travel Periods



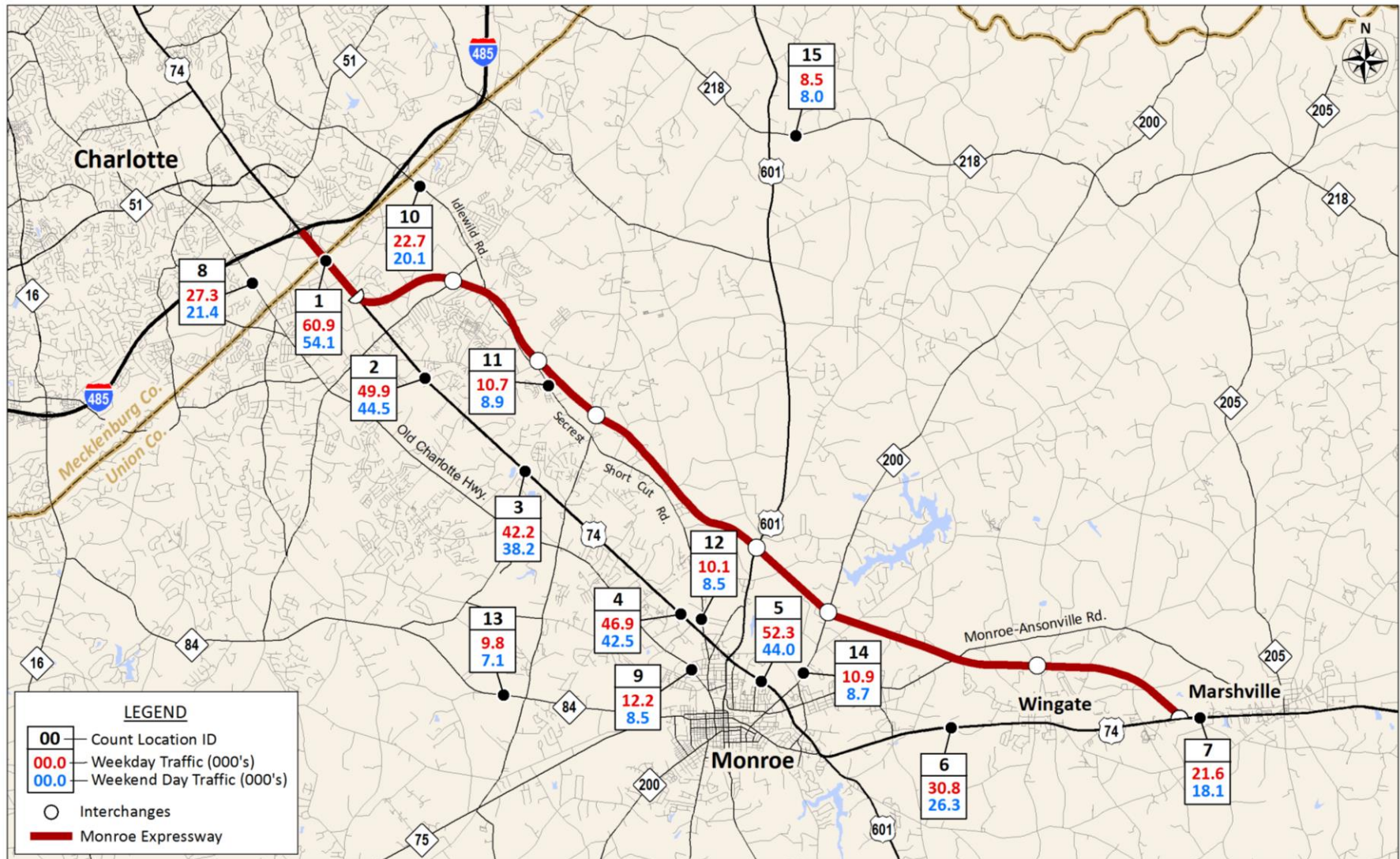


## Data Collection Locations



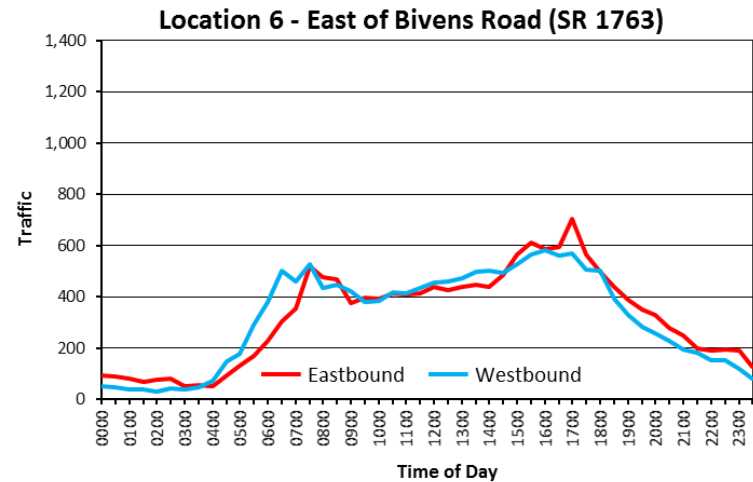
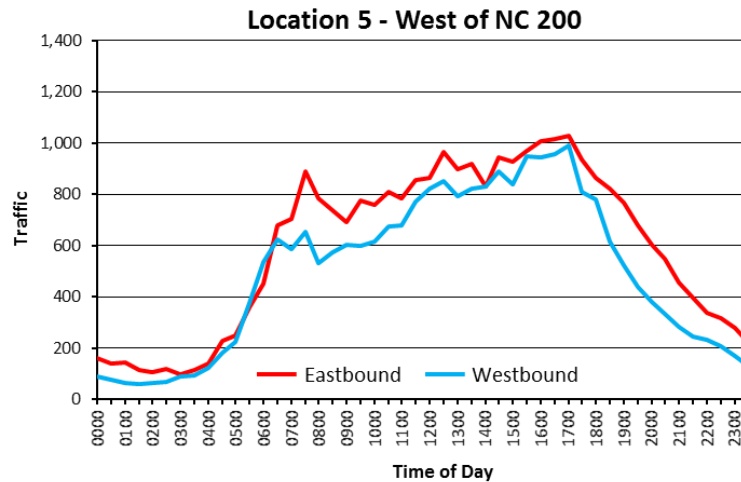
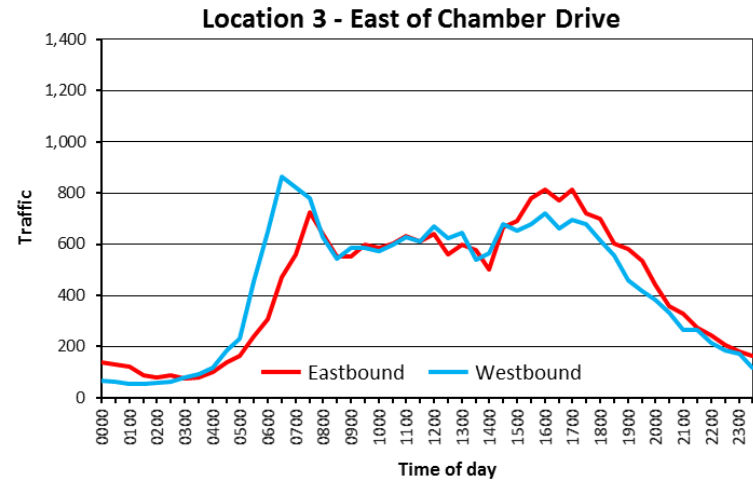
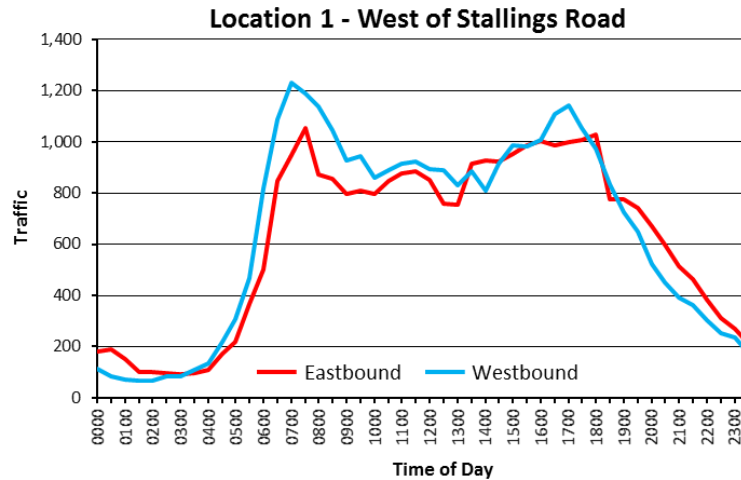


# 2015 Weekday and Weekend Day Traffic Volumes



Source: Counts conducted by the Traffic Group in October 2015.

# Weekday Hourly Traffic Variations - US 74





# US 74 Weekday Travel Speeds from INRIX

Segment Name	Distance (mi)	Westbound Speed by Hour																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NC-205/Elm St.	8.54	55	55	56	56	56	56	55	55	55	55	55	55	55	56	55	55	56	56	56	56	55	55	56	56
US-601/Pageland Hwy.	0.12	48	48	48	48	48	48	47	46	46	46	47	46	46	47	46	46	45	46	46	47	47	47	48	48
E. Franklin St.	1.21	34	34	35	35	34	35	32	29	28	21	20	20	18	19	19	19	20	21	23	29	28	28	31	33
NC-200/Morgan Mill Rd.	1.02	38	38	38	39	38	38	34	30	30	30	29	28	29	29	29	29	28	28	30	32	33	33	35	36
US-601(Concord Hwy)/NC-200	0.35	43	44	44	44	45	44	43	43	42	39	39	37	35	37	37	36	35	36	38	42	41	39	41	42
US-601(Concord Hwy)/NC-200	1.58	46	46	46	46	47	47	47	47	47	46	45	45	43	44	44	45	45	44	46	46	45	44	45	46
Roland Dr.	6.86	40	41	41	41	41	42	40	38	36	35	33	30	27	28	30	31	32	32	32	34	35	33	37	39
Indian Trail Fairview Rd.	1.27	48	48	49	49	49	47	43	38	39	43	44	43	40	39	39	38	37	35	37	41	42	42	45	47
Stallings Rd.	0.75	49	49	50	50	50	49	41	24	23	37	45	45	43	43	44	42	40	33	34	38	42	43	46	48
I-485	0.76	51	51	52	52	52	52	48	44	43	47	49	49	48	48	48	48	48	45	45	43	46	47	48	50

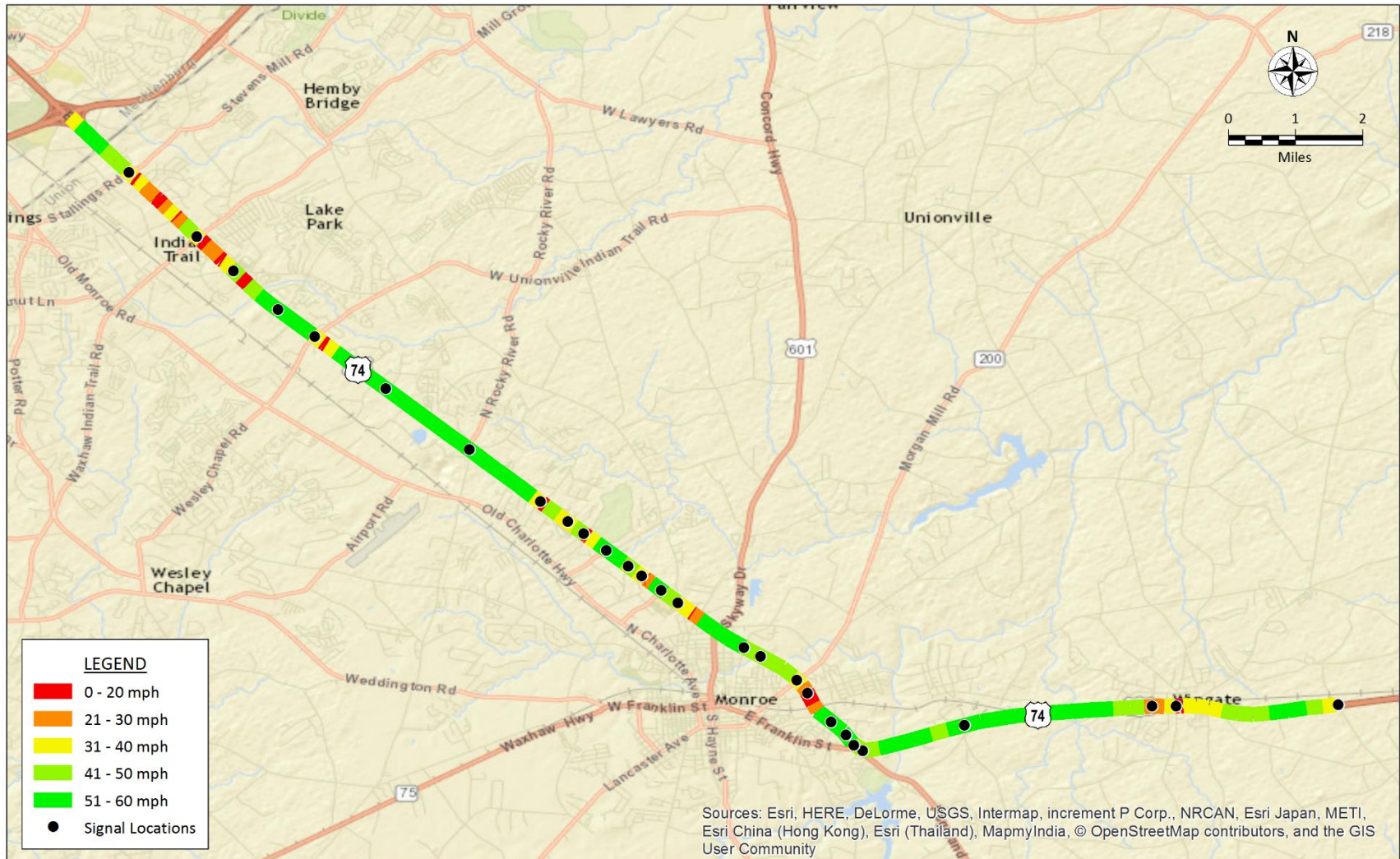
Segment Name	Distance (mi)	Eastbound Speed by Hour																							
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NC-205/Elm St.	9.54	49	49	49	49	49	49	48	48	47	48	48	48	48	48	47	47	47	47	47	48	48	47	48	48
US-601/Pageland Hwy.	8.55	37	38	37	37	37	38	38	33	34	30	30	29	28	28	27	29	30	30	31	36	35	32	34	36
E. Franklin St.	0.11	39	40	39	40	39	39	36	31	31	33	34	33	32	32	32	31	31	31	32	34	35	34	37	38
NC-200/Morgan Mill Rd.	1.21	43	44	44	44	45	45	43	41	40	39	39	37	34	33	34	37	38	37	36	34	36	39	41	42
US-601(Concord Hwy)/NC-200	0.97	46	46	47	47	47	47	47	47	47	46	46	45	44	44	44	44	44	43	44	44	44	44	45	45
US-601(Concord Hwy)/NC-200	0.30	40	40	41	41	40	39	38	38	37	36	35	32	28	27	29	30	30	29	29	31	33	32	36	38
Roland Dr.	1.66	49	49	49	50	49	50	47	47	47	47	46	44	43	42	42	40	38	38	39	42	43	44	46	48
Indian Trail Fairview Rd.	6.86	49	50	51	52	51	50	48	43	42	42	42	40	39	39	40	36	33	31	32	34	42	43	46	48
Stallings Rd.	1.26	51	52	53	54	54	51	47	36	37	37	38	35	31	27	26	22	19	18	20	21	43	46	49	51
I-485	0.61	53	54	54	55	55	54	54	53	53	54	54	53	52	51	50	49	46	44	47	47	52	53	53	54

Legend	
50.0 - 59.9 mph	
40.0 - 49.9 mph	
30.0 - 39.9 mph	
20.0 - 29.9 mph	
10.0 - 19.9 mph	



# AM PEAK WESTBOUND SPEEDS

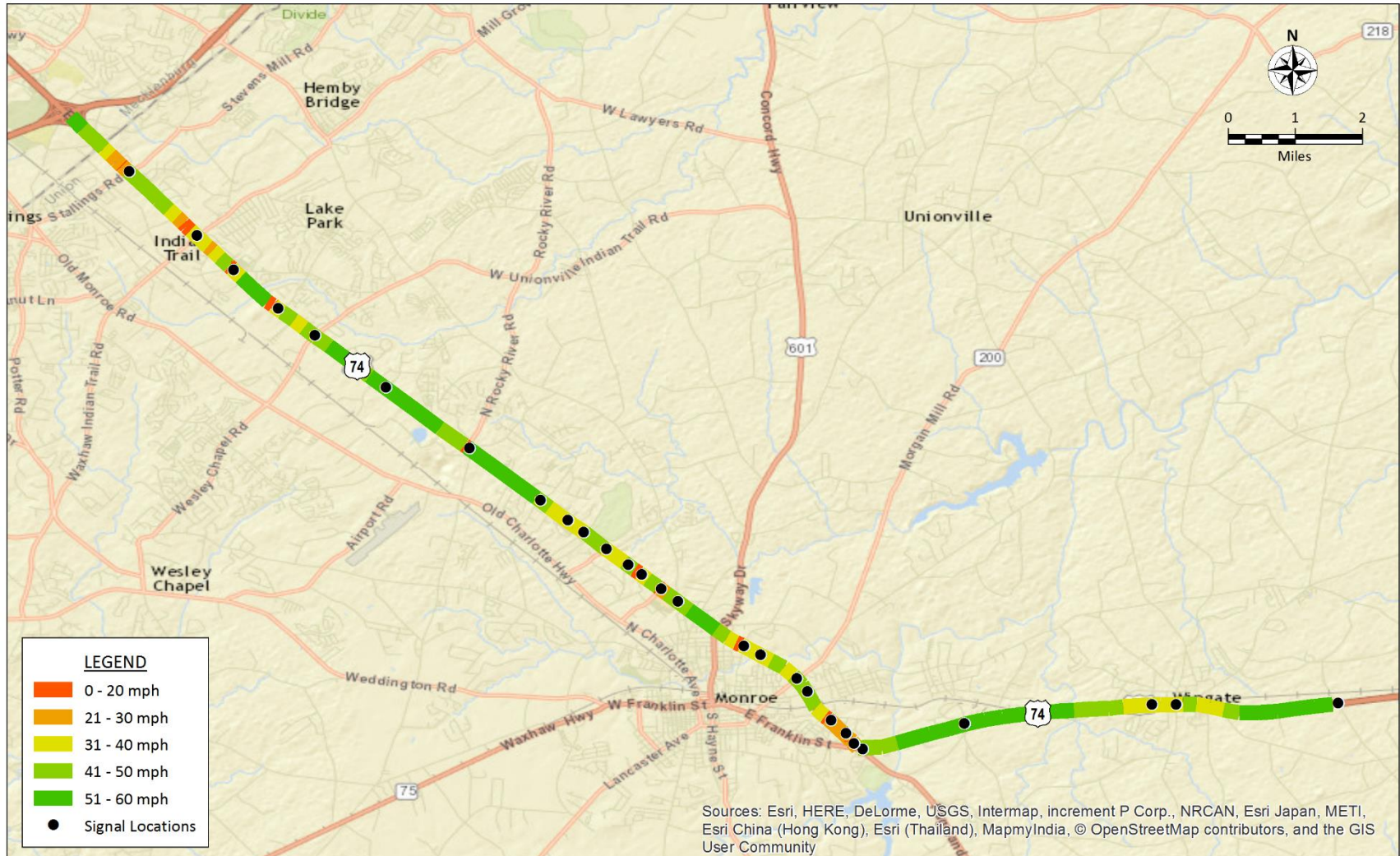
## Weekday, November 12, 2015





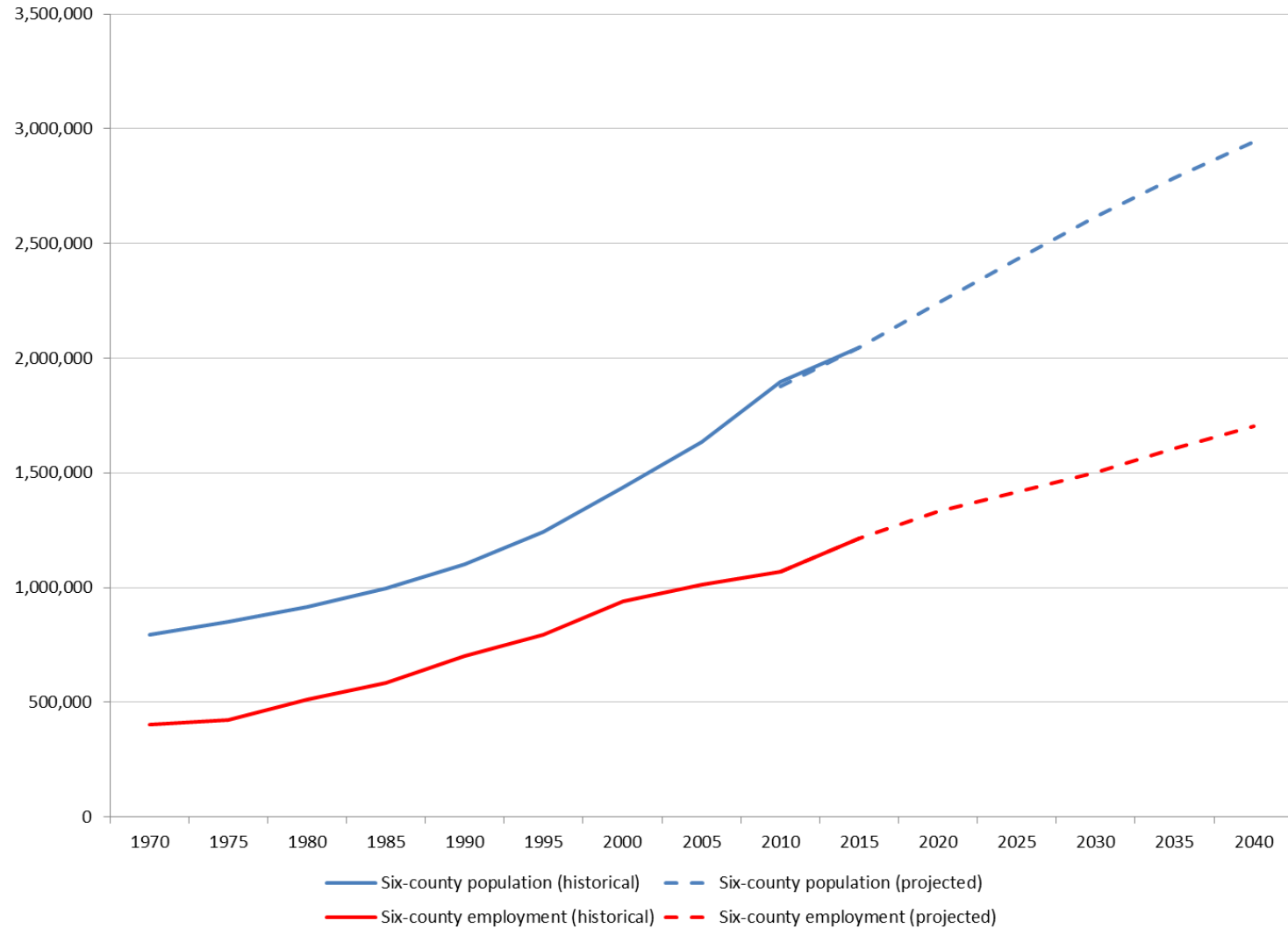
# PM PEAK EASTBOUND SPEEDS

## Weekday, November 12, 2015

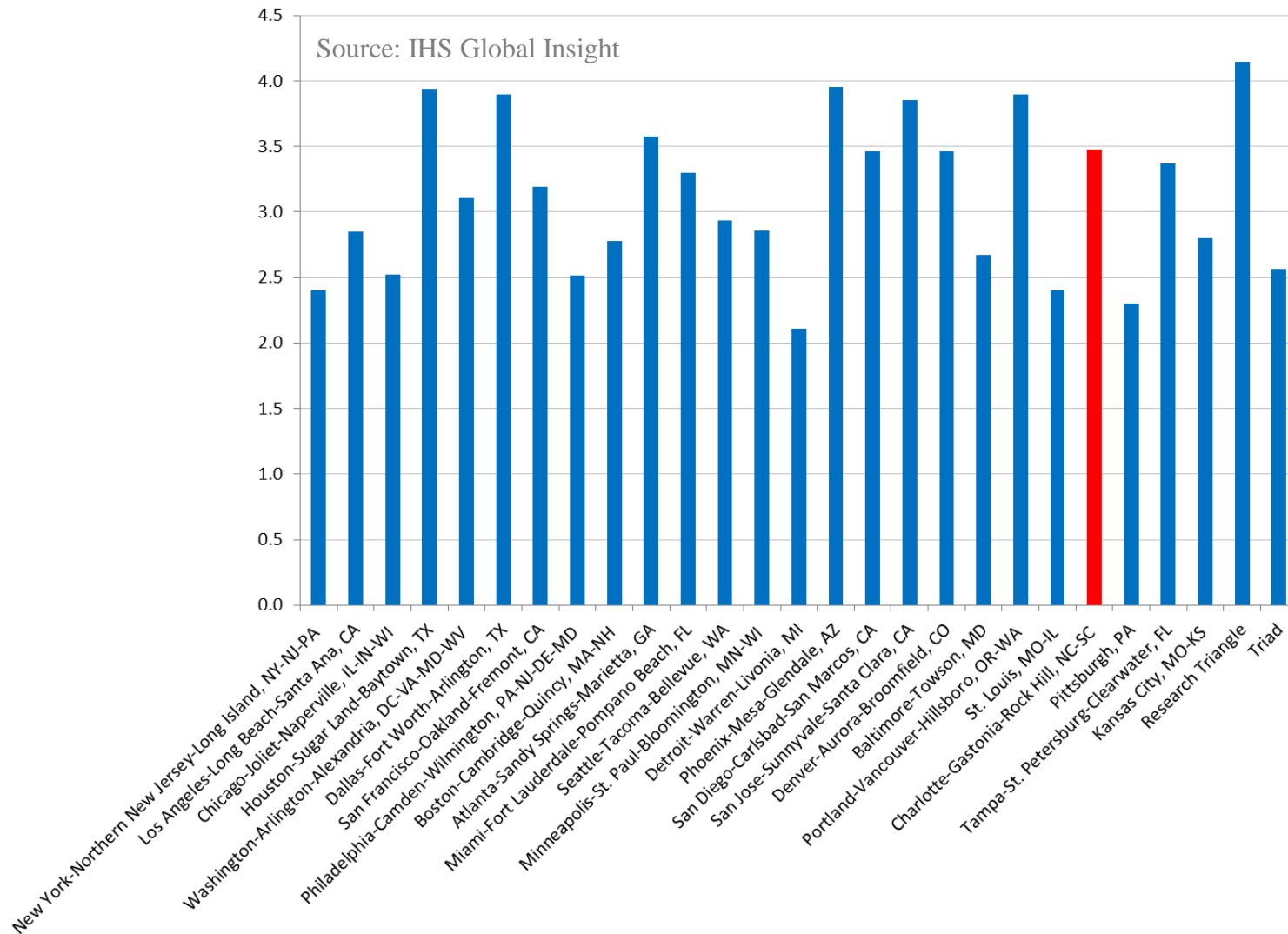


# *Economics (Overview of the Charlotte Region)*

## *Six-county Population and Employment, 1970-2040*

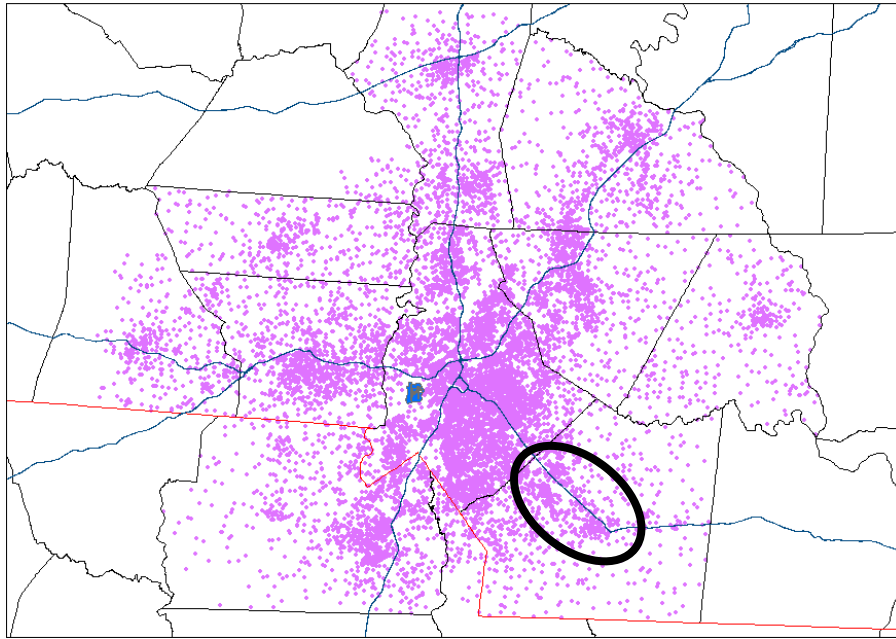


# Projected GMP Annual Growth Rates, 2013-2020

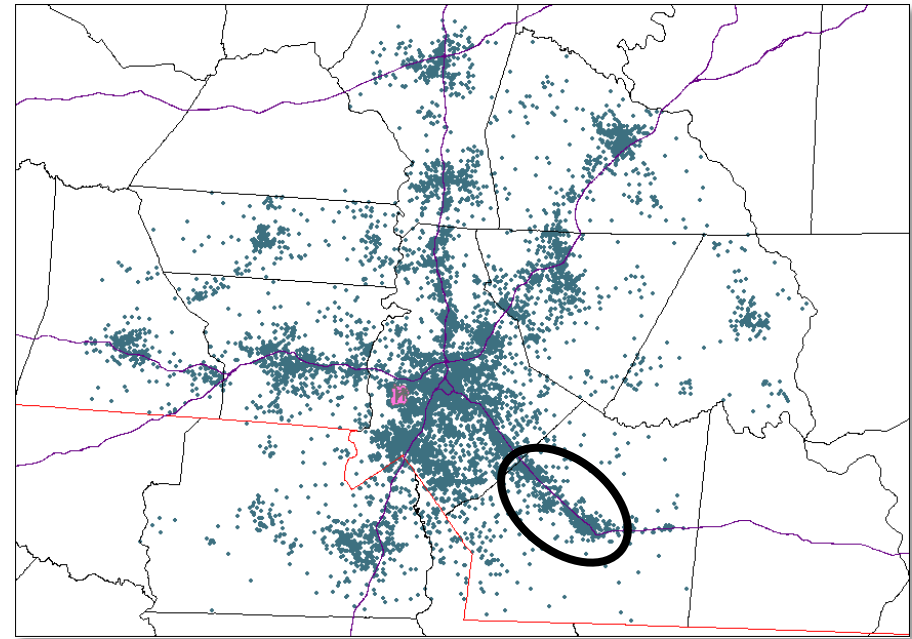


# *Regional Population and Employment Density, 2010*

Population



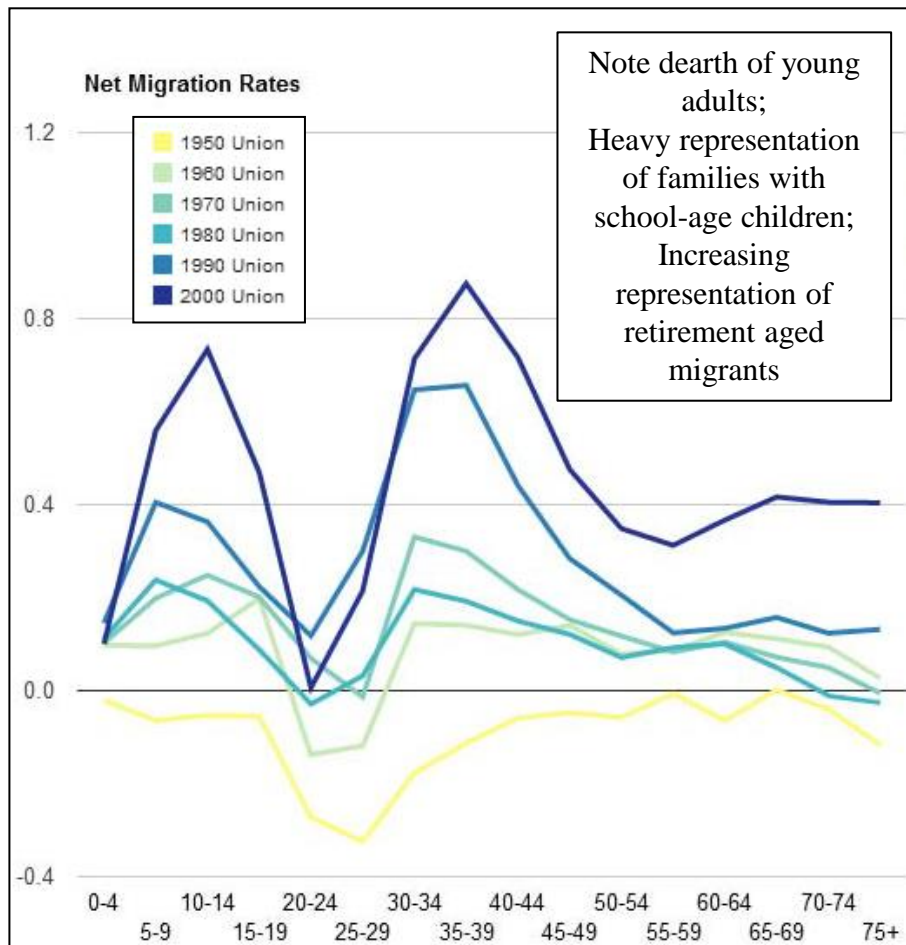
Employment



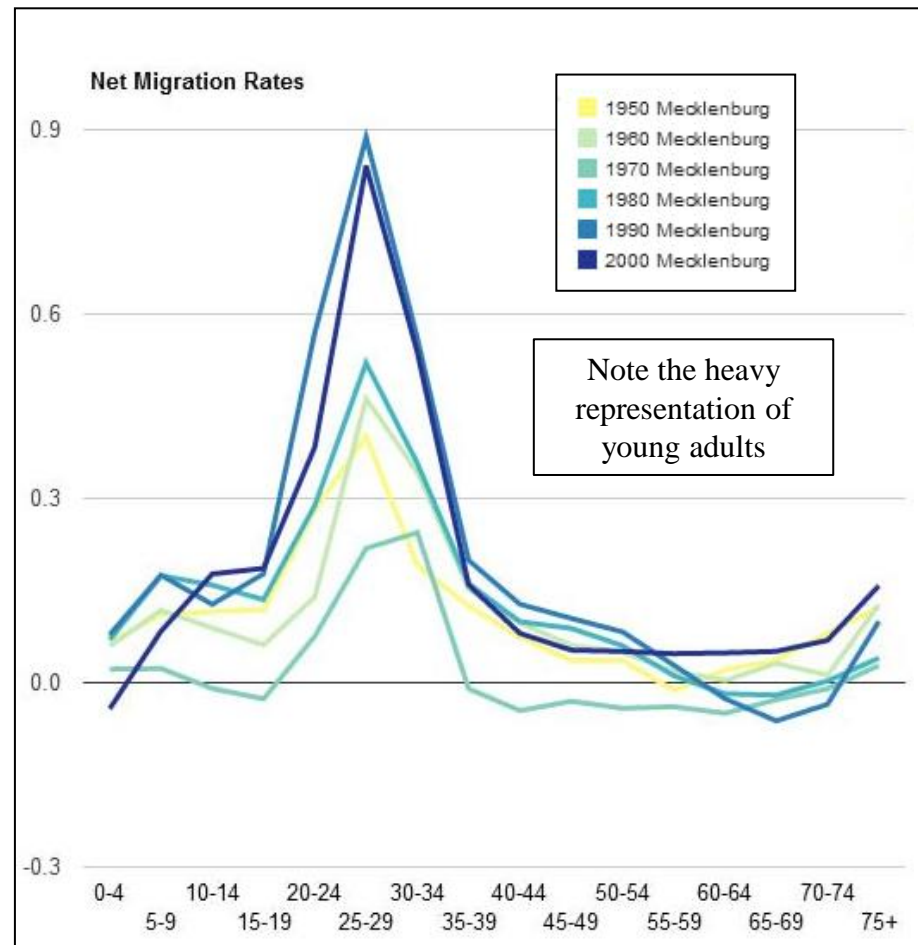
# *Economics (Regional Patterns)*

## *Migration Age Profile by County*

Union County

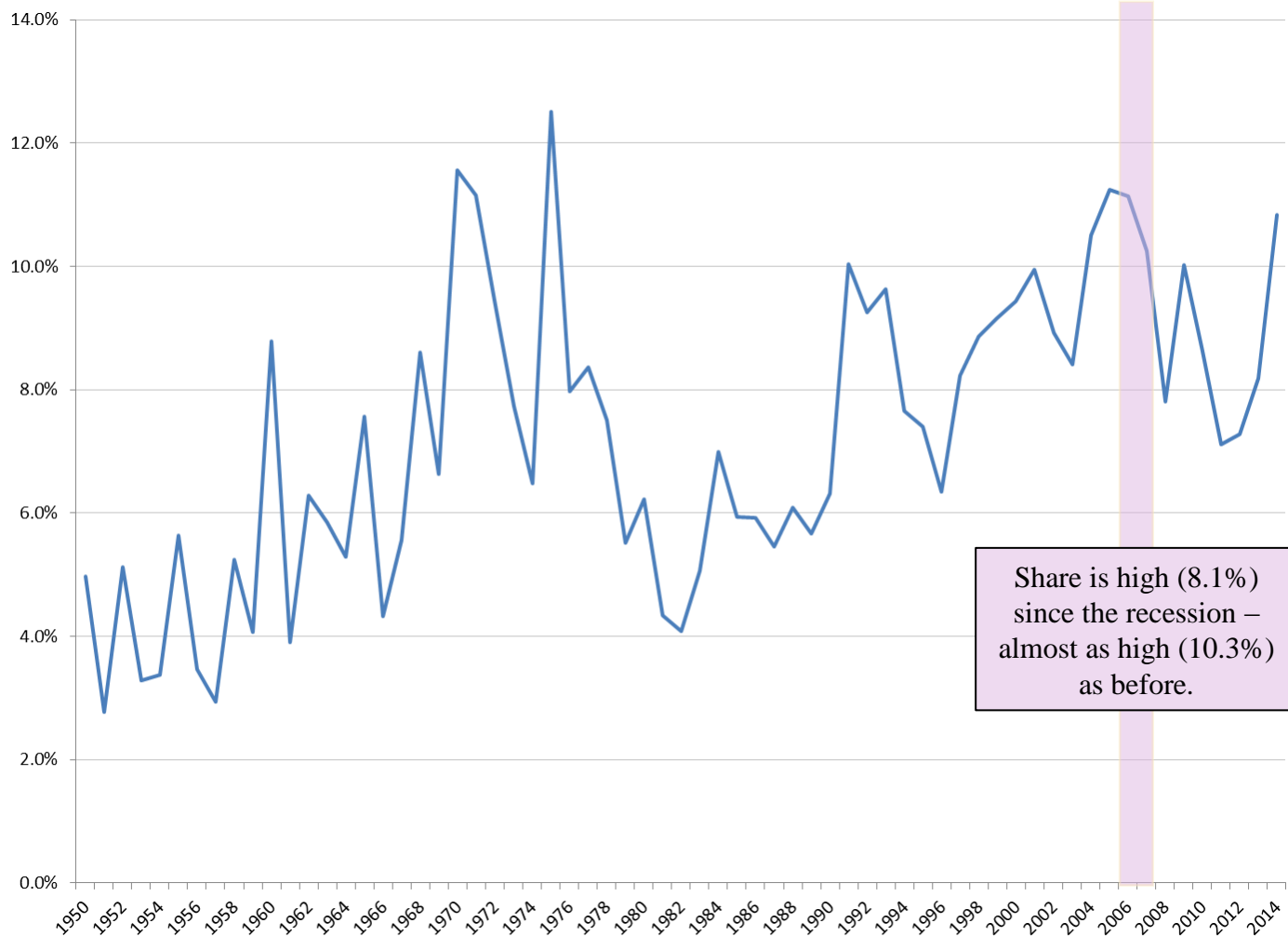


Mecklenburg County



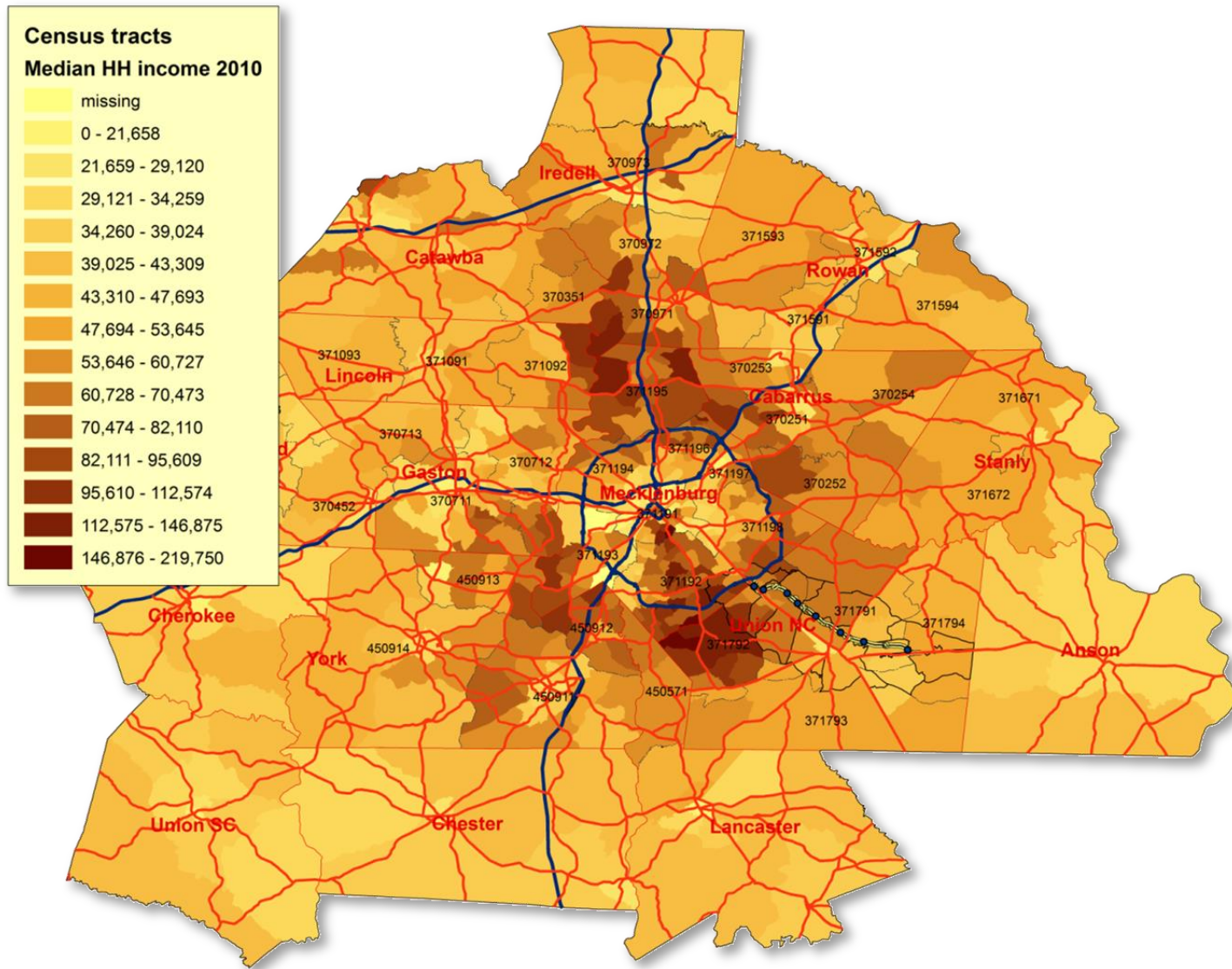


# *Share of five-county new single-family homes in Corridor, 1950-2014*





# *Median Household Income, 2010*



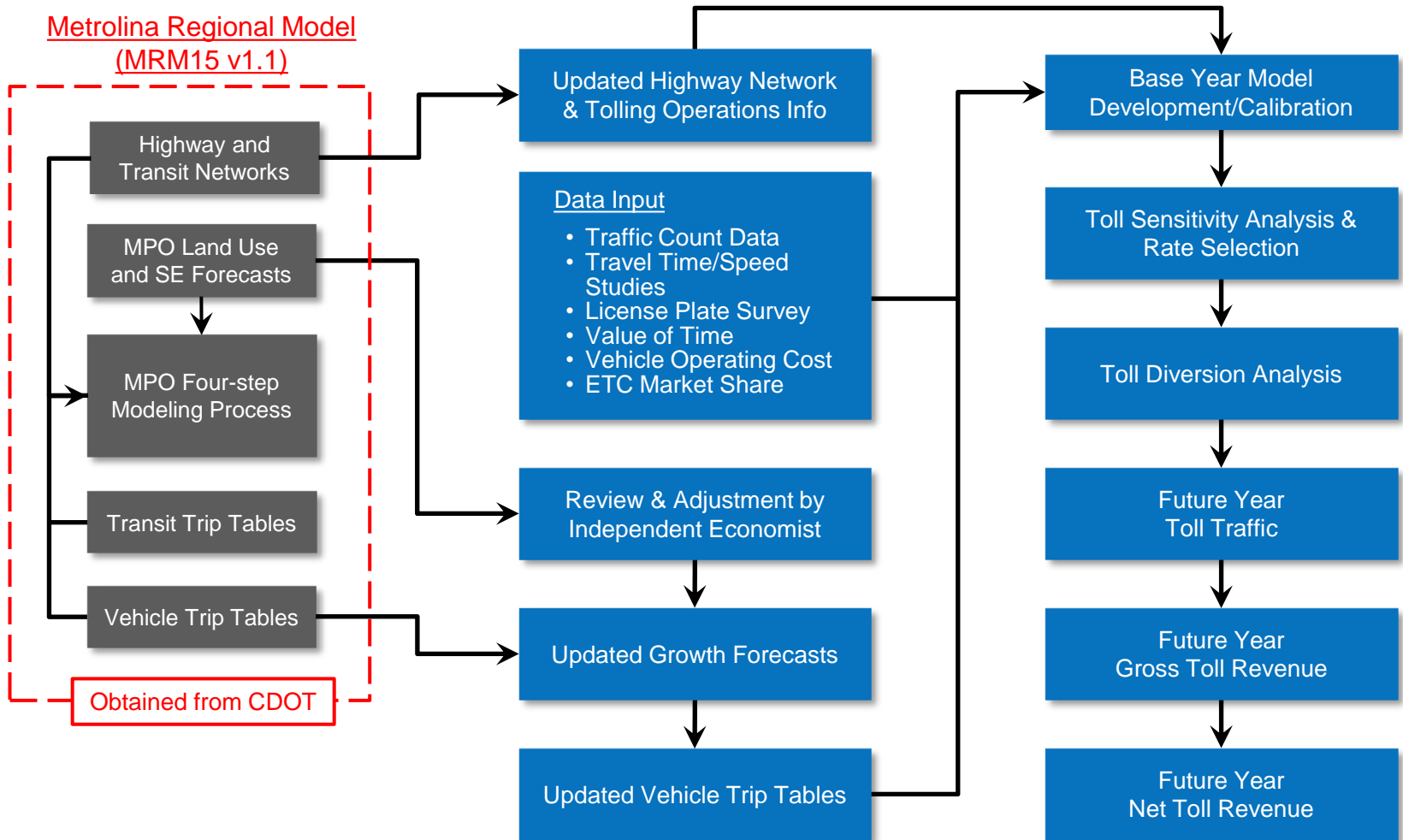
# *Economics (The Validity of the Metrolina Socio-economic Estimates and Projections)*

On the basis of independent quantitative analysis of diverse sources of data and interviews with knowledgeable informants, the socio-economic estimates and projections used in the Metrolina Regional Travel Demand Model:

- are consistent with present measurements and future projections of multiple disinterested commercial and public researchers;
- include no speculative “bump” in population or employment related to the construction of the Expressway; and,
- imply population density gradients within the Expressway Corridor (and elsewhere) that are consistent with past trends and current expectations.

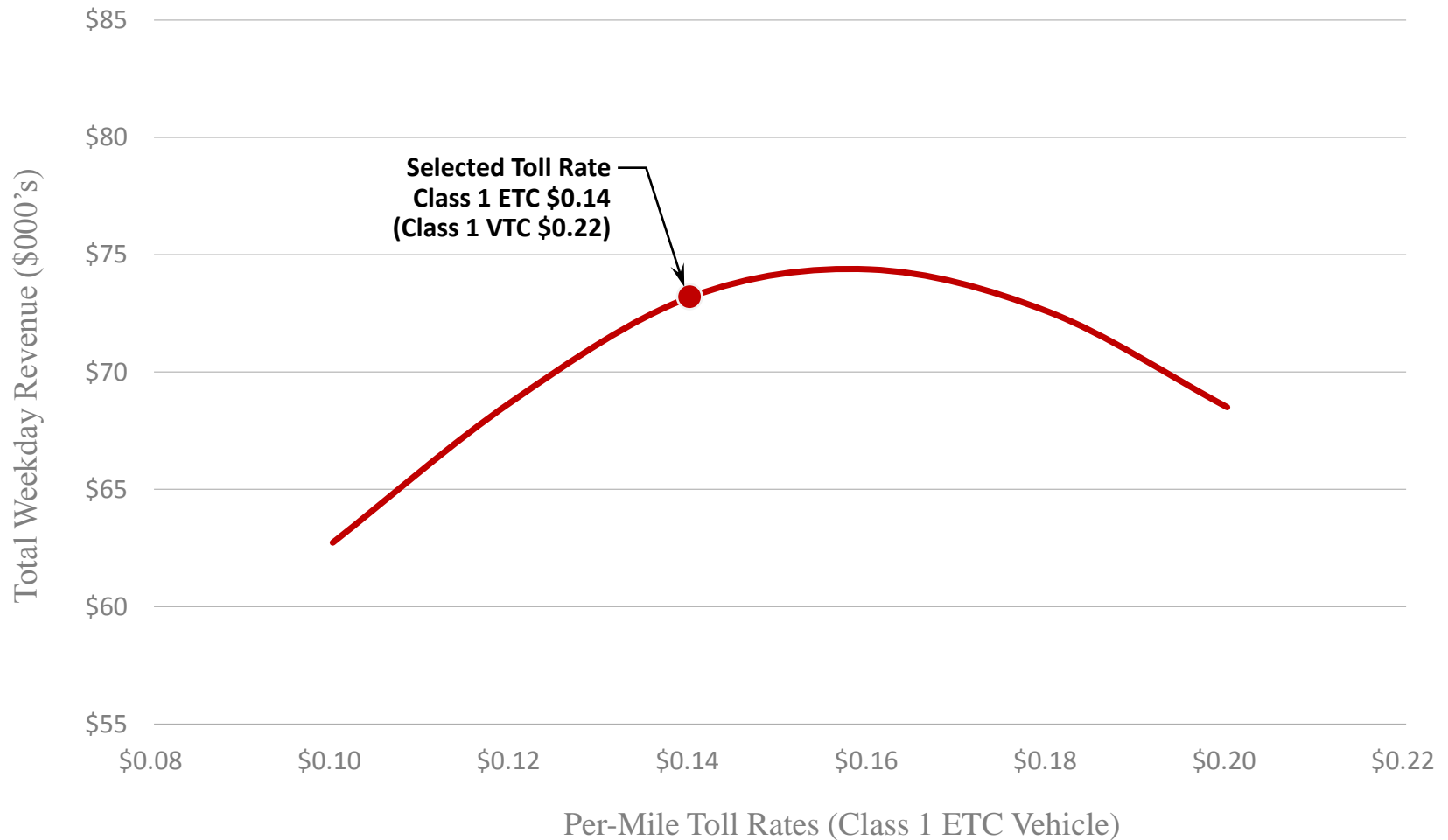


# Study Methodology

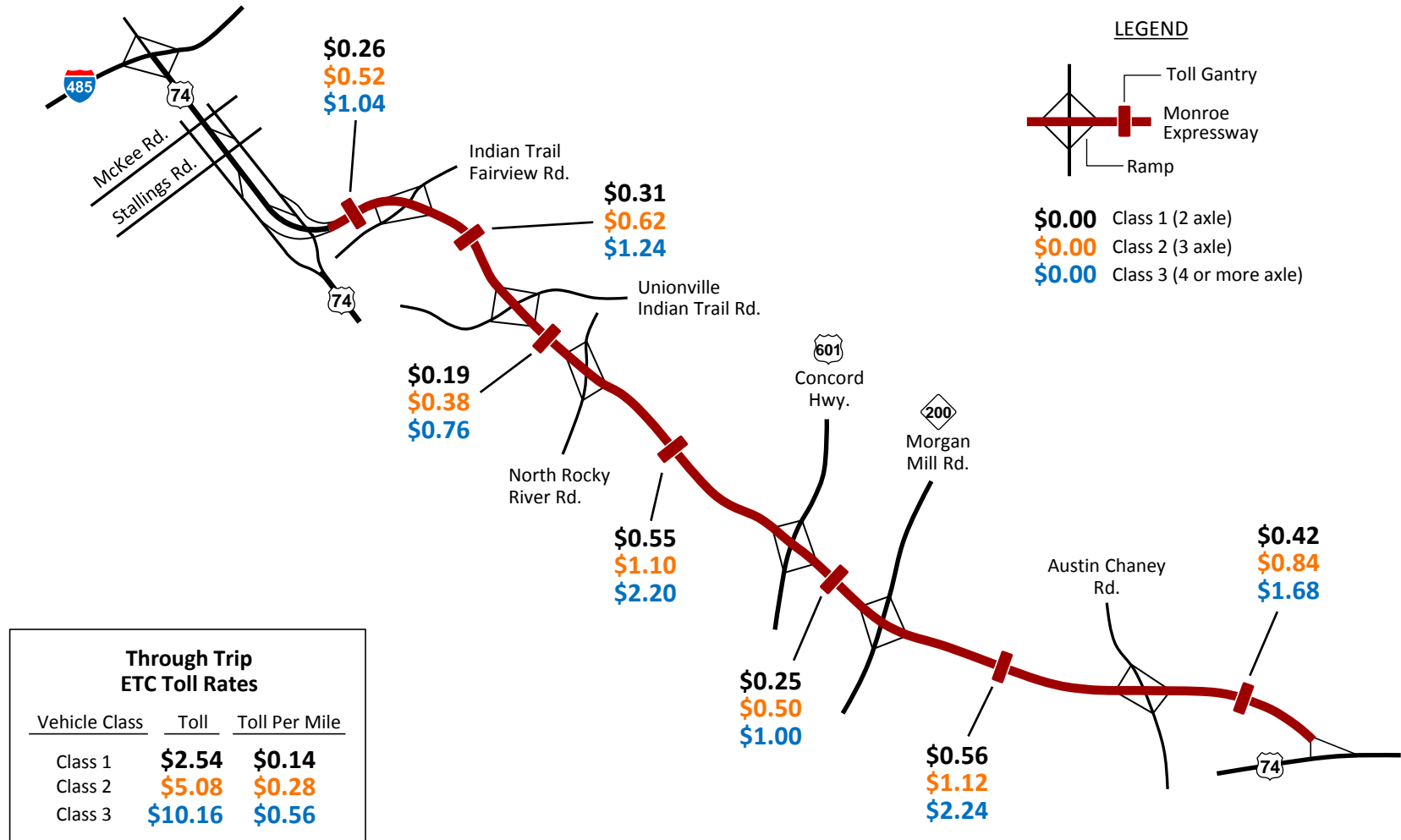


CDOT: Charlotte Department of Transportation.

# 2019 Monroe Expressway Toll Sensitivity Curve



# 2019 Electronic Toll Rates



## *ETC and VTC Percent Market Share on the Monroe Expressway*

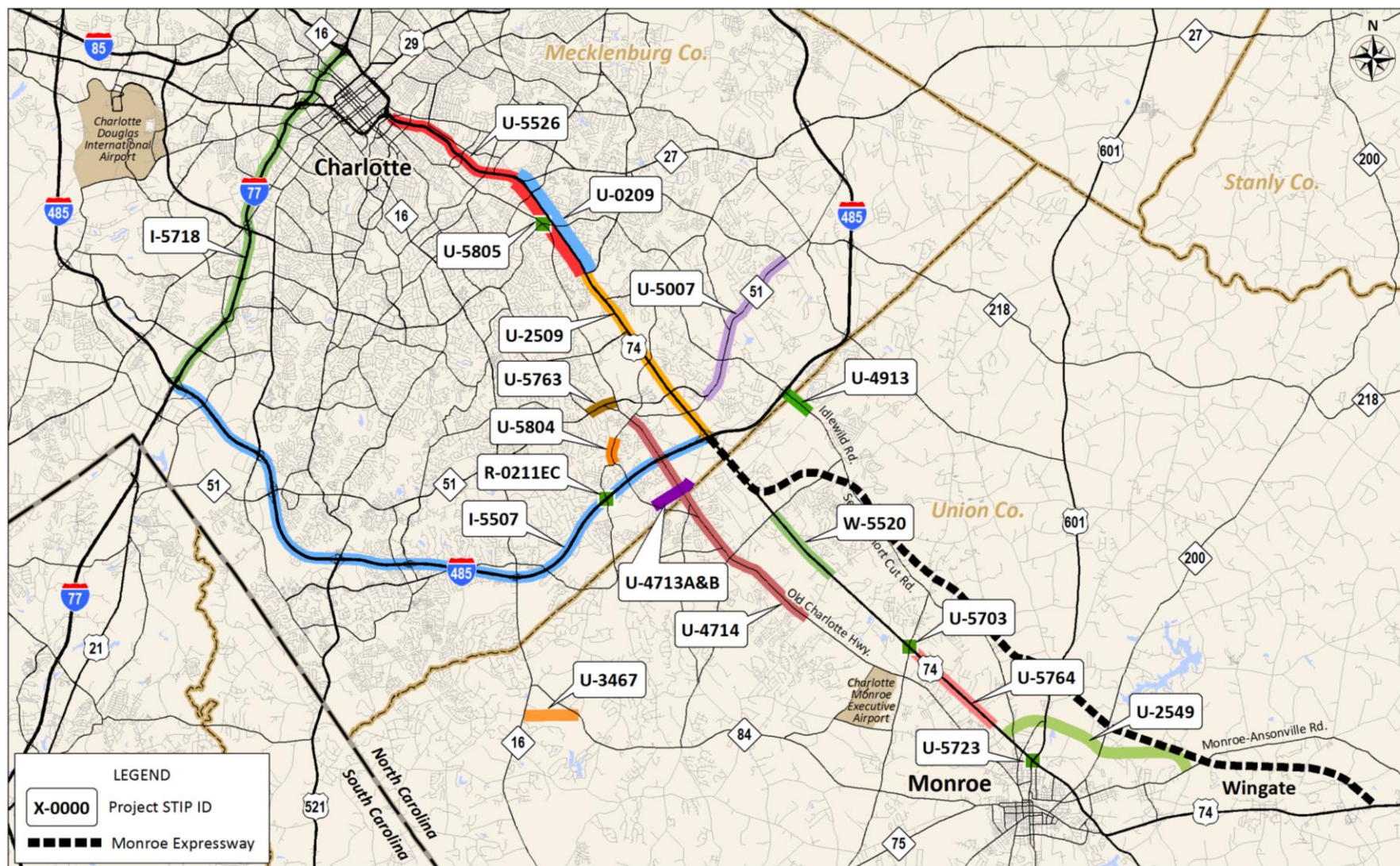
Calendar <u>Year</u>	<u>Class 1 Vehicles</u>			<u>Class 2 and 3 Vehicles</u>		
	<u>ETC</u>	<u>VTC</u>	<u>Total</u>	<u>ETC</u>	<u>VTC</u>	<u>Total</u>
2019 <sup>(1)</sup>	59.0%	41.0%	100.0%	71.0%	29.9%	100.0%
2025	61.3	38.7	100.0	71.0	29.0	100.0
2030	63.7	36.3	100.0	72.0	28.0	100.0
2040	67.7	32.3	100.0	73.9	26.1	100.0

(1) Assumes the Monroe Expressway opens on January 1, 2019.





# *Selected Future-Year Roadway Improvements*



# *Selected Future-Year Roadway Improvements*

## **U-4714**

- Proposes to improve 6.5 miles of SR 1009.
- Existing two-lane road will be widened to a multi-lane facility (final cross-section to be determined).
- Construction is scheduled to begin in FY 2022.

## **W-5520**

- Proposes to convert existing full movement signalized intersections to signalized superstreet designs on US 74 from Fairview Road to Wesley Chapel Stouts Road in Indian Trail.
- Construction is anticipated to begin December 2016.

## **U-5703**

- Proposes to convert the existing US 74 (Roosevelt Blvd) and SR 1514 (Rocky River Road) intersection to a superstreet design.
- Construction is scheduled to begin in FY 2017.

## **U-5764**

- Proposes to widen 2.8 miles of US 74 from Hanover Drive to SR 1007 (Rocky River Road).
- Existing 4-lane road to be widened to 6 lanes.
- Construction is scheduled to begin in FY 2020.

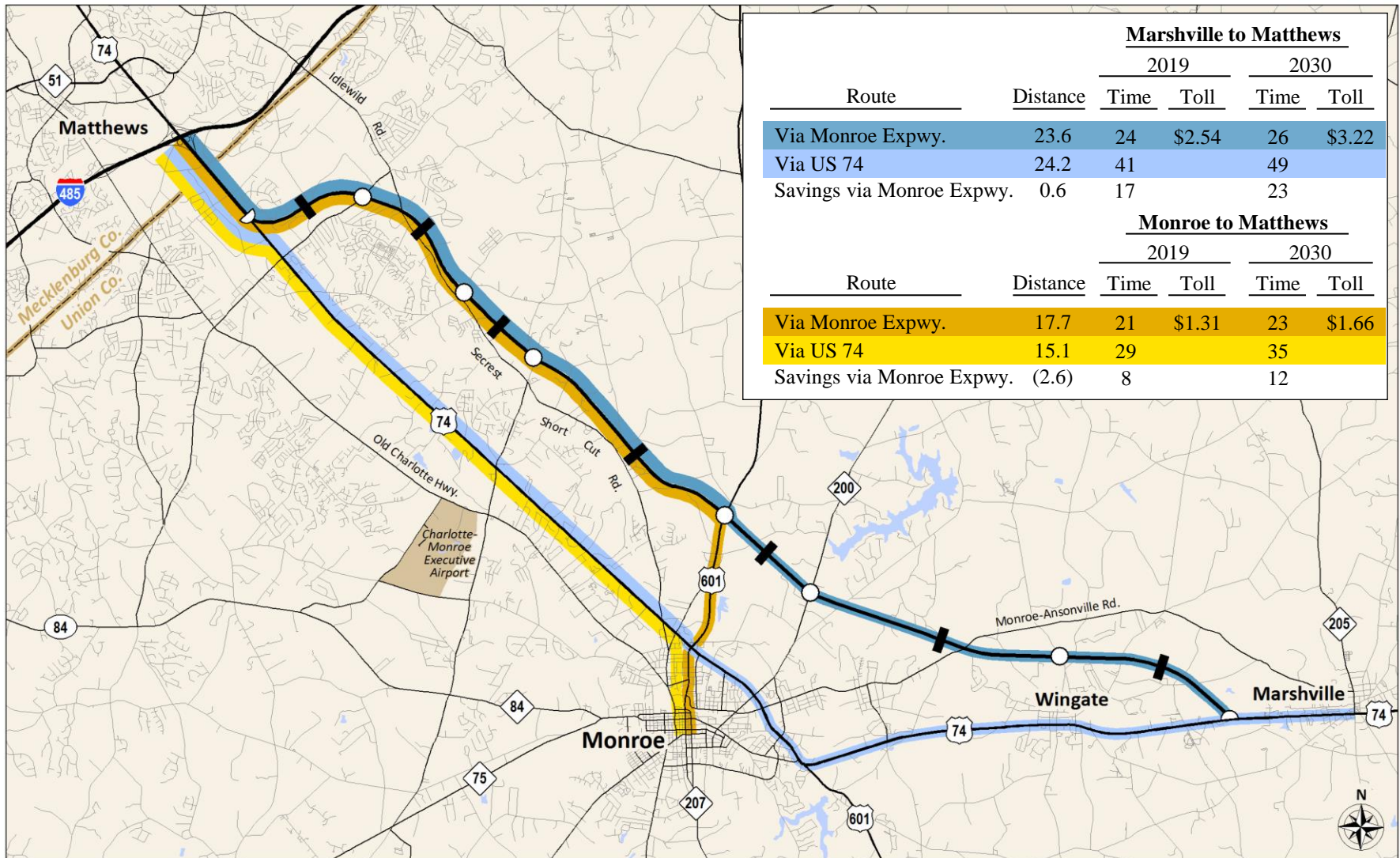
## **U-2549**

- Proposes to build the Monroe Northern Loop from US 74 to SR 1751 (Walkup Avenue) at SR 1763 (Bivens Road). The road is proposed to be a 4-lane facility.
- Construction is currently unfunded.
- Project is being re-scored in the current round of project prioritization and based on the score, the project may be deleted from the Transportation Improvement Program.

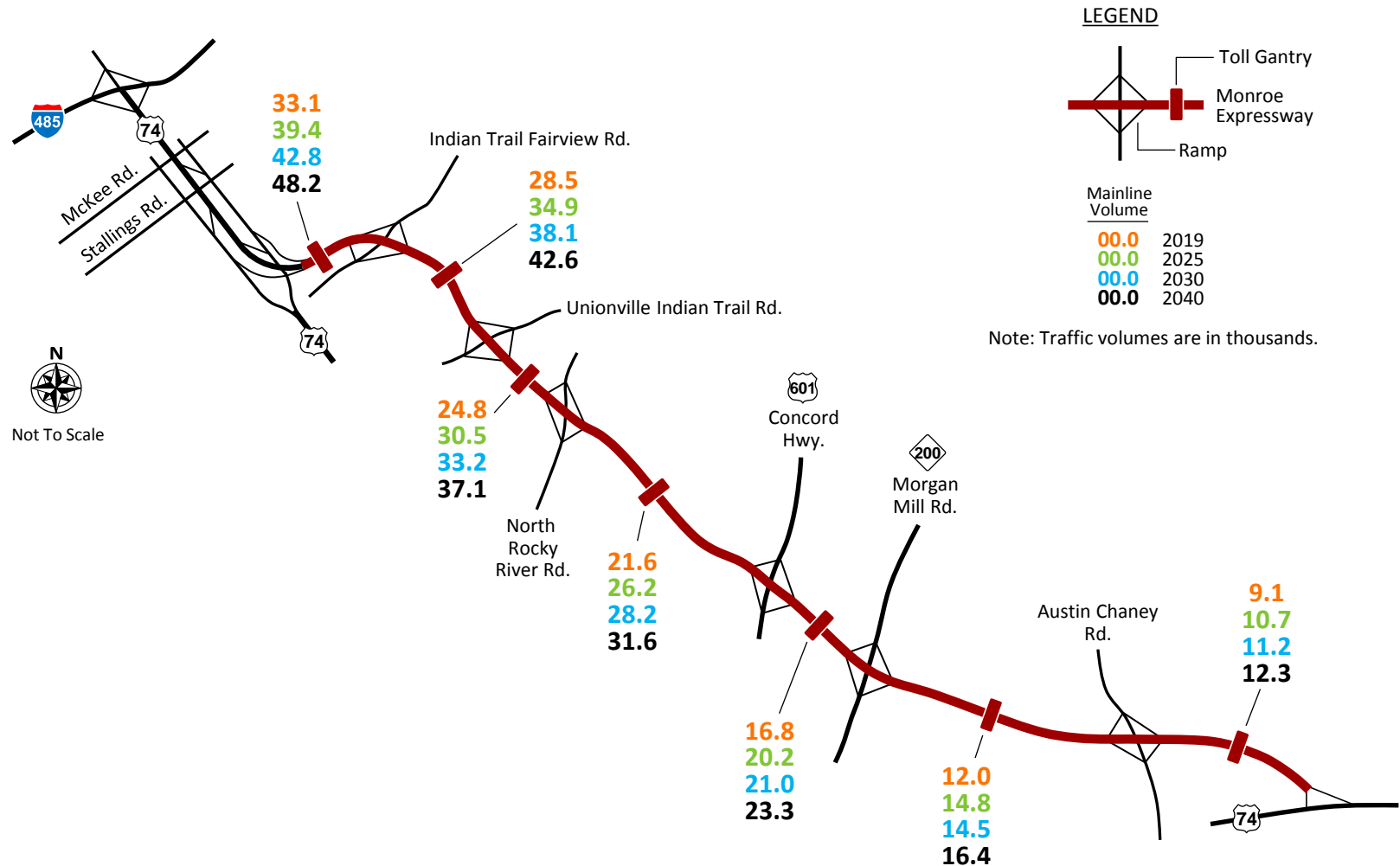




# Sample Time and Costs Savings AM Peak Period - Westbound



# Estimated 2019, 2025, 2030 and 2040 Weekday Traffic Volumes - Calendar Year



# *Estimated Annual Transactions and Toll Revenue*

## *Monroe Expressway*

*(Thousands)*

<u>Fiscal Year</u>	<u>Annual Toll Transactions</u>	<u>Annual Gross Toll Revenue <sup>(2)</sup></u>	<u>Annual Net Toll Revenue <sup>(3)</sup></u>
2019 <sup>(1)</sup>	14,324	\$7,137	\$7,519
2025	57,251	\$31,625	\$32,750
2030	61,507	\$37,236	\$38,020
2040	68,799	\$50,556	\$50,501
AAPC 2025-2030	1.4	3.3	3.0
AAPC 2030-2040	1.1	3.1	2.9
AAPC 2025-2040	1.2	3.2	2.9

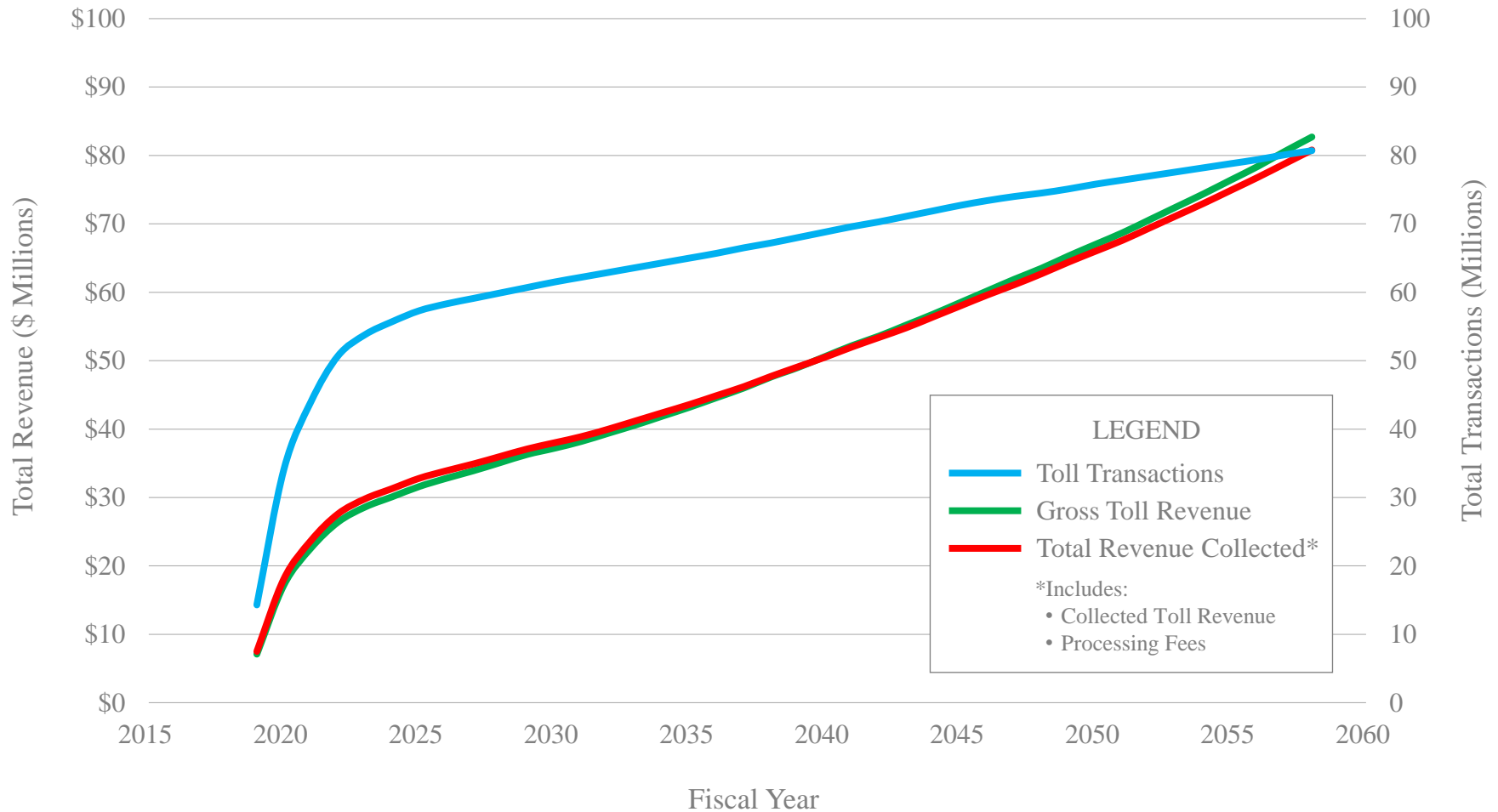
<sup>(1)</sup> Project only open for 6 months, and ramp-up applied.

<sup>(2)</sup> Total toll revenue prior to accounting for leakage or fee revenue.

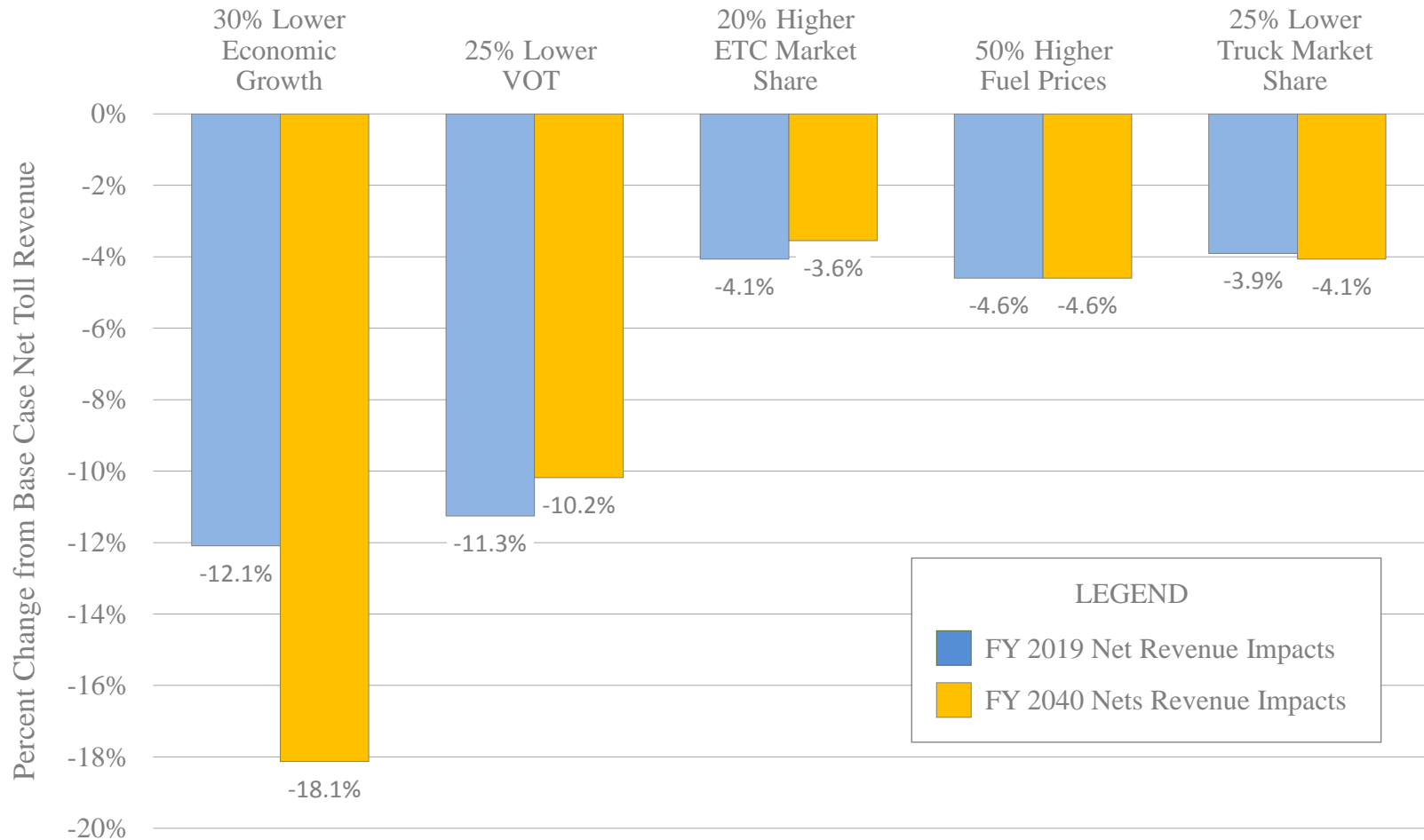
<sup>(3)</sup> Total collected toll revenue and processing fee revenue.



# *Estimated Annual Toll Transactions and Revenue*



# *Sensitivity Tests: Net Revenue Impacts Compared to Base Condition*





# *Monroe Expressway – Security Structure & Plan of Finance*

David Miller

Public Financial Management



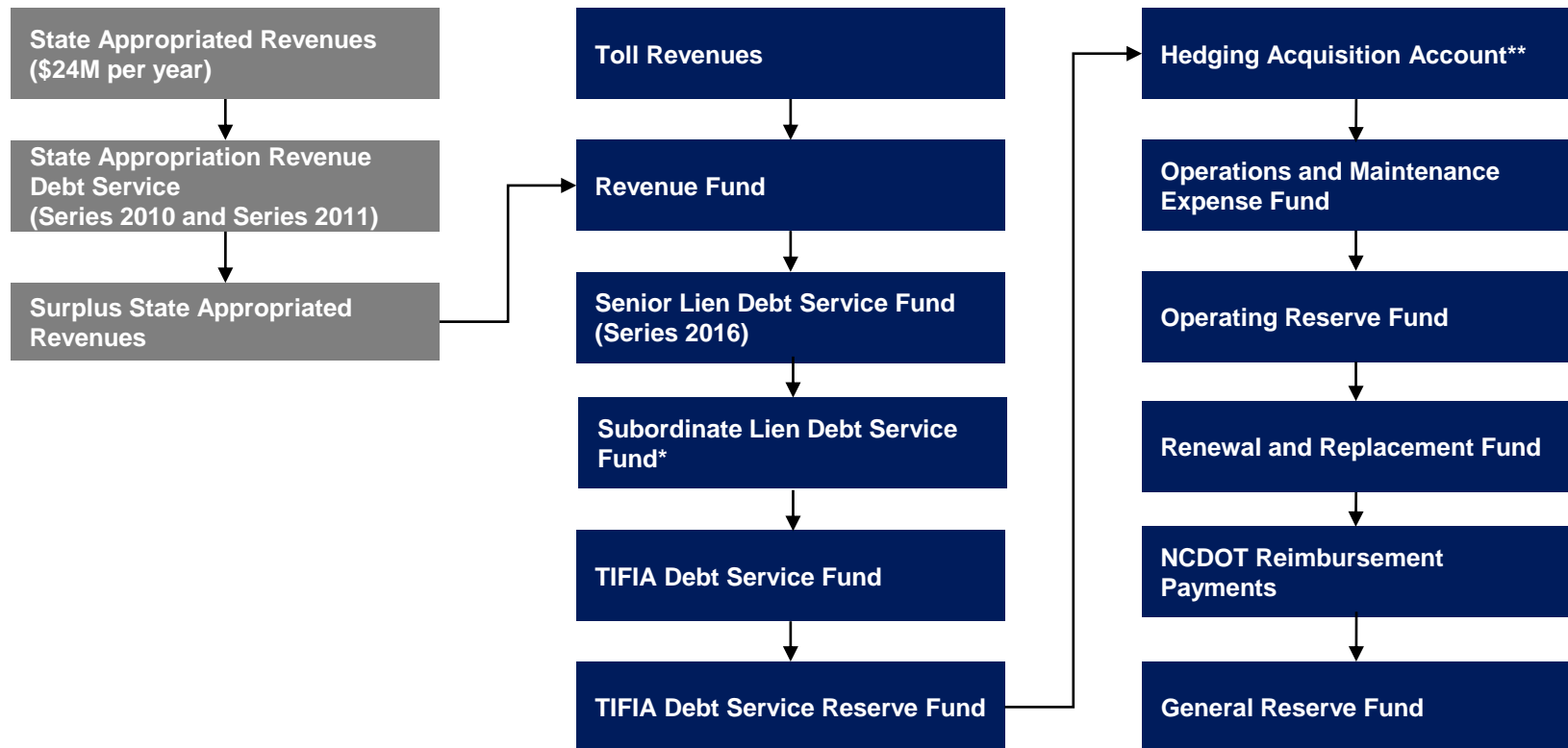
# *Security Structure*

- Senior Lien Toll Revenue Bonds secured by all Revenue consisting of:
  - Gross Toll revenues (based on T&R Forecast)
  - Surplus State Appropriated Revenues (appropriated from the Highway Trust Fund)
  - Surplus BABs Federal Interest Subsidy, as applicable
  - Trustee held account interest earnings
- TIFIA loan secured by a subordinate pledge of Revenue
- NCDOT commitment to replenish the Operating Reserve Fund and Renewal & Replacement Fund, both pursuant to the Trust Agreement, allows debt service to be paid before O&M Expenses and R&R Costs



# Flow of Funds

- NCTA will have a bifurcated flow of funds consisting of state appropriation revenue bonds and toll revenue bonds with TIFIA secured under the toll revenue bond lien



Note:

\*NCTA currently does not plan to issue subordinate bonds

\*\* Hedging account reserved for variable rate bonds

# *Financial Liquidity*

- Capitalized Interest through July 1, 2019
- Senior Lien Debt Service Reserve Account
  - Funded at lesser of 10% of principal, MADS or 125% average annual debt service
- TIFIA Debt Service Reserve Account
  - Funded at lesser of 10% of principal, MADS or 125% average annual debt service
- Operating Reserve Fund equal to 3 months operating and maintenance expenses – NCDOT replenishes the fund within 60 days of receiving notice of a draw
- Renewal and Replacement Fund – funded annually to meet periodic major maintenance needs – NCDOT replenishes the fund within 60 days of receiving notice of a draw
- General Reserve Fund — balance first used to fund any prior deficiencies and then to repay NCDOT – after meeting all requirements, surplus funds held in General Reserve Fund and set aside for Monroe Expressway System
  - General Reserve already has a balance of almost \$27 million



# *Financial Covenants*

- Toll Rate Covenant
  - 1.30x Senior Lien Debt service
  - 1.20x Senior and Subordinate debt service
  - 1.00x all fixed obligations — (all debt service and Renewal and Replacement Fund deposits)
- If the Toll Rate Covenant is not met, NCTA covenants to retain a qualified T&R consultant to study toll rates and to further take such actions as needed to become compliant with the Toll Rate Covenant
- Additional Bonds Test
  - Rate Covenant compliance
  - Projected debt service coverage ratios of at least:
    - 1.40x Senior Lien debt service
    - 1.30x Senior and Subordinate debt service





# *TIFIA Covenants*

- TIFIA loan secured by a subordinate pledge of Revenue – Anticipate “standard” bankruptcy related event and non-subordination to apply.
- Propose no TIFIA required prepayments except pro rata with NCTA expenditures for Non-System Projects
  - Similar to triangle Expressway, preserves liquidity in the General Reserve for the Monroe Expressway System
- Propose no acceleration of any debt under the trust agreement, including TIFIA, even in an event of default
- Given that construction of the Monroe Expressway is well underway, the TIFIA conditions precedent do not pose any significant risk to loan draws



# Original Financing

- The original Monroe plan of finance included two series of State Appropriation Revenue Bonds (“Appropriation Bonds”), Senior Lien Turnpike Revenue Bonds (“Toll Bonds”), GARVEE Bonds, GARVEE state match and STIP Funds.
  - Appropriation Bonds and initial Toll Bonds are fully covered by the \$24 million annual state appropriation
  - GARVEE bonds are backed by the DOT’s future federal revenues and assumed a takeout in 2018 with future Toll Revenue Bonds
- Construction costs and revenue start date
  - 5.5 years of construction with substantial completion and revenue start date in FY2017

## Summary of Monroe Financings

Series Name	Series	Par	Delivery Date	Maturity	Security
State Appropriation Revenue Bonds	Series 2010A	\$ 233,920,000	10/26/2010	7/1/2041	State Appropriation
Senior Lien Turnpike Revenue Bonds	Series 2011	\$ 10,000,000	11/15/2011	7/1/2023	Residual State Appropriation & Toll Revenue
State Appropriation Revenue Bonds	Series 2011	\$ 214,505,000	11/30/2011	7/1/2041	State Appropriation
GARVEES	Series 2011	\$ 145,535,000	12/28/2011	3/1/2023	DOT Federal Funds
		\$ 603,960,000			



## *2016 Plan of Financing*

- The project cost estimate is \$731M
  - \$440M funding available from State Appropriation Revenue Bonds, Series 2010A and Series 2011 and Senior Lien Turnpike Revenue Bonds, Series 2011
  - Proceeds from the GARVEE Bonds, Series 2011 directed to other Federal aid eligible projects
  - \$291M additional funding needed
- NCTA intends to issue approximately \$161 million senior lien toll revenue bonds in October 2016
  - \$124 million of proceeds for construction plus funds capitalized interest and a DSRF
  - Refunds Toll Revenue Bonds, Series 2011 (Bank of America \$10 million loan)
- Approximately \$12.3 million of NCDOT STIP funding.
- \$166 million TIFIA direct loan will complete the funding package for the Project



# Preliminary Funding Sources and Uses

Sources							
	Series 2010 Approp Bonds	Series 2011 Approp Bonds	Series 2011 Toll Rev. Bonds	Series 2016 Toll Rev. Bonds	TIFIA Loan	State Highway Trust Fund	Total
Par Amounts							
CIB	233,920,000	214,505,000	10,000,000	91,905,000	166,500,000		716,830,000
CCAB				48,215,532			48,215,532
+Premium/-Discount		18,693,018		21,293,795			39,986,813
Total Bond Proceeds	233,920,000	233,198,018	10,000,000	161,414,326	166,500,000		805,032,344
State Highway Trust Fund <sup>1</sup>						12,297,442	12,297,442
<b>Total Sources</b>	<b>233,920,000</b>	<b>233,198,018</b>	<b>10,000,000</b>	<b>161,414,326</b>	<b>166,500,000</b>	<b>12,297,442</b>	<b>817,329,786</b>

Uses							
	Series 2010 Approp Bonds	Series 2011 Approp Bonds	Series 2011 Toll Rev. Bonds	Series 2016 Toll Rev. Bonds	TIFIA Loan	State Highway Trust Fund	Total
Construction Cost							
Construction Fund Deposit	198,843,386	231,735,079	9,819,500	124,072,536	166,500,000		730,970,501
Series 2011 TR Bonds Take Out				6,479,813			6,479,813
Capitalized Interest Fund - Series 2010 Approp Bonds	29,081,083						29,081,083
DSRF - Series 2010 Approp Bonds	4,303,953						4,303,953
Capitalized Interest Fund - Series 2016 TR Bonds				15,653,715			15,653,715
DSRF - Series 2016 TR Bonds				14,078,249			14,078,249
DSRF - TIFIA Loan						11,975,003	11,975,003
Fuel Hedge Cap Premium						322,439	322,439
Underwriter's Discount				770,663			770,663
Cost of Issuance	1,691,579	1,462,939	180,500	350,301			3,685,320
Additional Proceeds/(Funding Gap)				9,049			9,049
<b>Total Uses</b>	<b>233,920,000</b>	<b>233,198,018</b>	<b>10,000,000</b>	<b>161,414,326</b>	<b>166,500,000</b>	<b>12,297,442</b>	<b>817,329,786</b>

1. For tax purposes, cash is being used to fund the TIFIA reserve and the cost of the Fuel Price Hedge.



# Annual Costs and Funding

in \$ thousands

Sources:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
<b>Appropriation Debt</b>											
Series 2010 Appropriation Bonds	35,077	35,894	14,788	11,026	39,111	98,024					233,920
Series 2011 Toll Revenue Bonds		181				9,820					10,000
Series 2011 Appropriation Bonds		1,463				80,655	151,080				233,198
<b>Toll Revenue Debt</b>											
Series 2016 Toll Revenue Bonds							88,641	72,773			161,414
TIFIA Loan								80,329	75,458	10,713	166,500
<b>State Highway Trust Fund</b>							12,297				12,297
<b>Total</b>	<b>35,077</b>	<b>37,537</b>	<b>14,788</b>	<b>11,026</b>	<b>39,111</b>	<b>188,499</b>	<b>252,019</b>	<b>153,102</b>	<b>75,458</b>	<b>10,713</b>	<b>817,330</b>

Uses:	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
<b>Funded Construction Costs</b>											
Series 2010 Appropriation Bonds		35,894	14,788	11,026	39,111	98,024					198,843
Series 2011 Toll Revenue Bonds						9,820					9,820
Series 2011 Appropriation Bonds						80,655	151,080				231,735
Series 2016 Toll Revenue Bonds							51,299	72,773			124,073
TIFIA Loan								80,329	75,458	10,713	166,500
State Highway Trust Fund											0
<b>Sub-total</b>		<b>35,894</b>	<b>14,788</b>	<b>11,026</b>	<b>39,111</b>	<b>188,499</b>	<b>202,379</b>	<b>153,102</b>	<b>75,458</b>	<b>10,713</b>	<b>730,971</b>
<b>Financing Costs</b>	35,077	1,643					49,639				86,359
<b>Total</b>	<b>35,077</b>	<b>37,537</b>	<b>14,788</b>	<b>11,026</b>	<b>39,111</b>	<b>188,499</b>	<b>252,019</b>	<b>153,102</b>	<b>75,458</b>	<b>10,713</b>	<b>817,330</b>

<b>Monroe Construction Costs</b>		<b>35,894</b>	<b>14,788</b>	<b>11,026</b>	<b>39,111</b>	<b>188,499</b>	<b>202,379</b>	<b>153,102</b>	<b>75,458</b>	<b>10,713</b>	<b>730,971</b>
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# Projected Debt Service Coverage Ratios

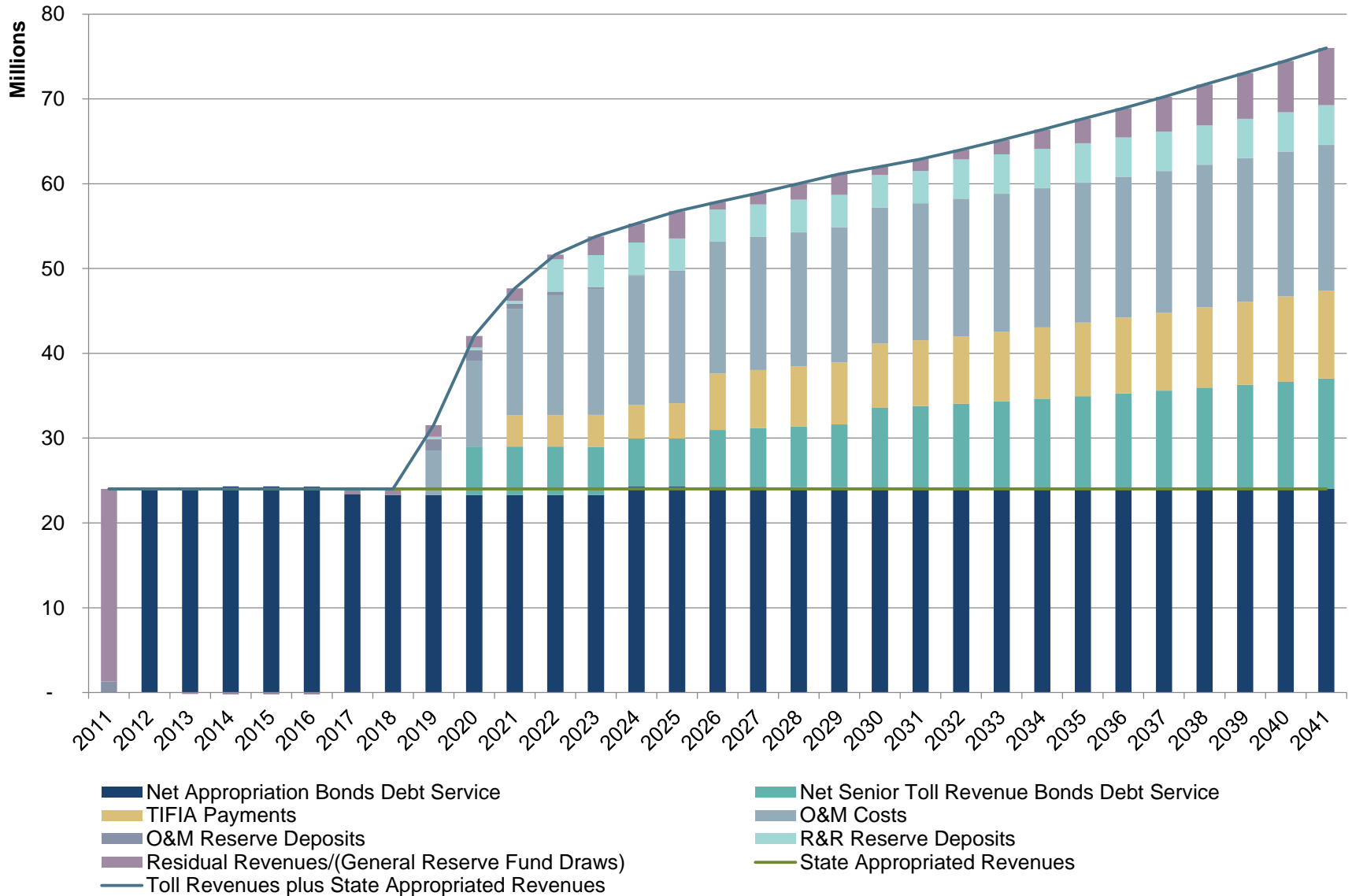
Fiscal Year	Series 2016 (Senior Lien)				TIFIA Loan			Pledged Revenues	Series 2016 Bonds Coverage	TIFIA Coverage	All-in Coverage
	Total Gross DS	Capitalized Interest	DSRF Earnings	Net DS	Gross Repayment	DSRF Earnings	Net Repayment				
2016											
2017	4,480,369	(4,480,369)									
2018	5,973,825	(5,973,825)									
2019	5,973,825	(5,973,825)						8,212,473			
2020	5,973,825		(281,565)	5,692,260				18,747,123	3.29x	3.29x	1.08x
2021	5,973,825		(281,565)	5,692,260	3,936,107	(239,500)	3,696,607	24,355,123	4.28x	2.59x	1.07x
2022	5,973,825		(281,565)	5,692,260	3,970,847	(239,500)	3,731,347	28,347,350	4.98x	3.01x	1.02x
2023	5,973,825		(281,565)	5,692,260	4,005,949	(239,500)	3,766,449	30,474,001	5.35x	3.22x	1.08x
2024	5,973,825		(281,565)	5,692,260	4,171,349	(239,500)	3,931,849	31,022,946	5.45x	3.22x	1.08x
2025	5,973,825		(281,565)	5,692,260	4,385,052	(239,500)	4,145,552	32,486,650	5.71x	3.30x	1.11x
2026	6,993,825		(281,565)	6,712,260	6,884,050	(239,500)	6,644,550	33,608,469	5.01x	2.52x	1.03x
2027	7,207,525		(281,565)	6,925,960	7,116,531	(239,500)	6,877,031	34,650,429	5.00x	2.51x	1.04x
2028	7,438,025		(281,565)	7,156,460	7,333,878	(239,500)	7,094,378	35,794,739	5.00x	2.51x	1.06x
2029	7,673,050		(281,565)	7,391,485	7,571,404	(239,500)	7,331,904	36,922,847	5.00x	2.51x	1.07x
2030	9,661,664		(281,565)	9,380,099	7,806,197	(239,500)	7,566,697	37,819,951	4.03x	2.23x	1.03x
2031	9,891,108		(281,565)	9,609,543	7,991,804	(239,500)	7,752,304	38,715,839	4.03x	2.23x	1.04x
2032	10,175,558		(281,565)	9,893,993	8,176,360	(239,500)	7,936,860	39,843,129	4.03x	2.23x	1.03x
2033	10,469,964		(281,565)	10,188,399	8,410,733	(239,500)	8,171,233	41,004,778	4.02x	2.23x	1.04x
2034	10,786,226		(281,565)	10,504,661	8,651,201	(239,500)	8,411,701	42,227,300	4.02x	2.23x	1.06x
2035	11,117,139		(281,565)	10,835,574	8,905,123	(239,500)	8,665,623	43,525,206	4.02x	2.23x	1.07x
2036	11,445,489		(281,565)	11,163,924	9,174,179	(239,500)	8,934,679	44,807,293	4.01x	2.23x	1.08x
2037	11,785,142		(281,565)	11,503,577	9,440,082	(239,500)	9,200,582	46,143,110	4.01x	2.23x	1.10x
2038	12,169,038		(281,565)	11,887,473	9,717,126	(239,500)	9,477,626	47,640,350	4.01x	2.23x	1.11x
2039	12,523,319		(281,565)	12,241,754	10,027,801	(239,500)	9,788,301	49,006,126	4.00x	2.22x	1.12x
2040	12,902,993		(281,565)	12,621,428	10,311,151	(239,500)	10,071,651	50,471,077	4.00x	2.22x	1.14x
2041	13,295,180		(281,565)	13,013,615	10,615,310	(239,500)	10,375,810	52,003,594	4.00x	2.22x	1.15x
2042	13,652,478		(281,565)	13,370,913	10,932,292	(239,500)	10,692,792	53,373,000	3.99x	2.22x	1.16x
2043	14,039,678		(281,565)	13,758,113	11,219,005	(239,500)	10,979,505	54,849,000	3.99x	2.22x	1.17x
2044	14,447,851		(281,565)	14,166,286	11,529,260	(239,500)	11,289,760	56,405,000	3.98x	2.22x	1.23x
2045	14,878,552		(281,565)	14,596,987	11,856,331	(239,500)	11,616,831	58,029,000	3.98x	2.21x	1.24x
2046	15,298,005		(281,565)	15,016,440	12,197,696	(239,500)	11,958,196	59,620,000	3.97x	2.21x	1.25x
2047	15,699,068		(281,565)	15,417,503	12,532,124	(239,500)	12,292,624	61,140,000	3.97x	2.21x	1.26x
2048	16,115,395		(281,565)	15,833,830	12,851,628	(239,500)	12,612,128	62,714,000	3.96x	2.20x	1.27x
2049	16,553,275		(281,565)	16,271,710	13,182,483	(239,500)	12,942,983	64,358,000	3.96x	2.20x	1.28x
2050	16,978,448		(281,565)	16,696,883	13,528,052	(239,500)	13,288,552	65,967,000	3.95x	2.20x	1.15x
2051	17,413,193		(281,565)	17,131,628	13,866,263	(239,500)	13,626,763	67,595,000	3.95x	2.20x	1.16x
2052	17,883,575		(281,565)	17,602,010	14,208,469	(239,500)	13,968,969	69,368,000	3.94x	2.20x	1.17x
2053	18,358,710		(281,565)	18,077,145	14,581,154	(239,500)	14,341,654	71,150,000	3.94x	2.19x	1.18x
2054	18,854,338		(281,565)	18,572,773	14,633,101	(239,500)	14,393,600	72,995,000	3.93x	2.21x	1.19x

# TIFIA Loan Repayment Schedule

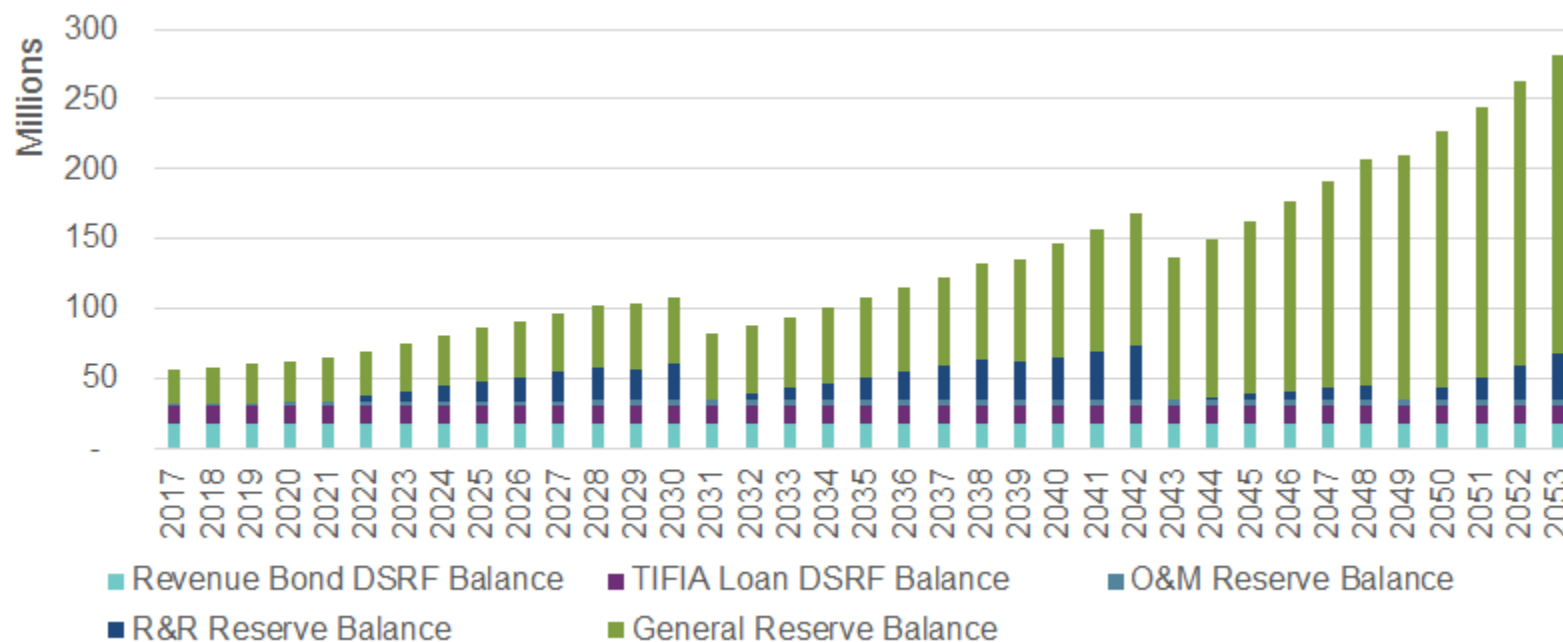
TIFIA Loan Repayment Calculation								
Period	Loan	Beginning	Interest				Current Year	
Ending	Draw Amt	Balance	Due	Payment	Interest Payments	Principal Payments	Unpaid Interest	Ending Balance
2017								
2018	80,328,796	80,328,796	2,509,492				2,509,492	82,838,287
2019	75,458,269	158,296,556	4,945,224				4,945,224	163,241,780
2020	10,712,936	173,954,716	5,434,389				5,434,389	179,389,104
2021		179,389,104	5,604,160	(3,936,107)	(3,936,107)		1,668,053	181,057,158
2022		181,057,158	5,656,271	(3,970,847)	(3,970,847)		1,685,424	182,742,582
2023		182,742,582	5,708,924	(4,005,949)	(4,005,949)		1,702,975	184,445,556
2024		184,445,556	5,762,125	(4,171,349)	(4,171,349)		1,590,776	186,036,333
2025		186,036,333	5,811,822	(4,385,052)	(4,385,052)		1,426,769	187,463,102
2026		187,463,102	5,856,394	(6,884,050)	(5,856,394)	(1,027,656)		186,435,446
2027		186,435,446	5,824,290	(7,116,531)	(5,824,290)	(1,292,241)		185,143,205
2028		185,143,205	5,783,920	(7,333,878)	(5,783,920)	(1,549,958)		183,593,247
2029		183,593,247	5,735,499	(7,571,404)	(5,735,499)	(1,835,905)		181,757,342
2030		181,757,342	5,678,145	(7,806,197)	(5,678,145)	(2,128,053)		179,629,289
2031		179,629,289	5,611,664	(7,991,804)	(5,611,664)	(2,380,140)		177,249,149
2032		177,249,149	5,537,308	(8,176,360)	(5,537,308)	(2,639,052)		174,610,097
2033		174,610,097	5,454,863	(8,410,733)	(5,454,863)	(2,955,870)		171,654,228
2034		171,654,228	5,362,521	(8,651,201)	(5,362,521)	(3,288,680)		168,365,547
2035		168,365,547	5,259,782	(8,905,123)	(5,259,782)	(3,645,341)		164,720,206
2036		164,720,206	5,145,900	(9,174,179)	(5,145,900)	(4,028,279)		160,691,927
2037		160,691,927	5,020,056	(9,440,082)	(5,020,056)	(4,420,026)		156,271,901
2038		156,271,901	4,881,973	(9,717,126)	(4,881,973)	(4,835,152)		151,436,749
2039		151,436,749	4,730,922	(10,027,801)	(4,730,922)	(5,296,879)		146,139,870
2040		146,139,870	4,565,446	(10,311,151)	(4,565,446)	(5,745,705)		140,394,165
2041		140,394,165	4,385,949	(10,615,310)	(4,385,949)	(6,229,361)		134,164,804
2042		134,164,804	4,191,342	(10,932,292)	(4,191,342)	(6,740,950)		127,423,854
2043		127,423,854	3,980,753	(11,219,005)	(3,980,753)	(7,238,252)		120,185,602
2044		120,185,602	3,754,628	(11,529,260)	(3,754,628)	(7,774,632)		112,410,971
2045		112,410,971	3,511,747	(11,856,331)	(3,511,747)	(8,344,584)		104,066,387
2046		104,066,387	3,251,060	(12,197,696)	(3,251,060)	(8,946,636)		95,119,751
2047		95,119,751	2,971,565	(12,532,124)	(2,971,565)	(9,560,559)		85,559,191
2048		85,559,191	2,672,891	(12,851,628)	(2,672,891)	(10,178,737)		75,380,454
2049		75,380,454	2,354,904	(13,182,483)	(2,354,904)	(10,827,579)		64,552,875
2050		64,552,875	2,016,648	(13,528,052)	(2,016,648)	(11,511,404)		53,041,472
2051		53,041,472	1,657,029	(13,866,263)	(1,657,029)	(12,209,235)		40,832,237
2052		40,832,237	1,275,609	(14,208,469)	(1,275,609)	(12,932,860)		27,899,378
2053		27,899,378	871,584	(14,581,154)	(871,584)	(13,709,570)		14,189,807
2054		14,189,807	443,293	(14,633,101)	(443,293)	(14,189,807)		
Total	166,500,000		158,776,798	(311,086,990)	(137,813,696)	(173,273,294)	20,963,102	



# Project Total Cash Flows



## Total Project Reserves & Liquidity



	Revenue Bond DSRF Balance (\$000's)	TIFIA Loan DSRF Balance (\$000's)	O&M Reserve Balance (\$000's)	R&R Reserve Balance (\$000's)	General Reserve Balance (\$000's)	Total (\$000's)
2020	18,382	11,975	2,536	-	29,939	62,833
2025	18,382	11,975	3,890	13,286	39,598	87,132
2030	18,382	11,975	4,006	26,279	47,175	107,817
2035	18,382	11,975	4,123	16,924	56,522	107,926
2040	18,382	11,975	4,257	31,140	80,348	146,101
2045	18,382	11,975	4,482	4,307	123,937	163,082
2050	18,382	11,975	4,678	8,185	183,786	227,007

# *Monroe Expressway – Financing & Bond Document Overview*

Wally McBride

Hunton & Williams





# *Monroe Expressway – Trust Agreements*

- Revenue Bond Trust Agreement:

- Forms of Bonds
- Redemption and Debt Service Payment Provisions
- Pledge of Revenues
- Flow of Revenues into Funds (Including Construction Fund)
- Rate Covenants
- NCDOT Commits on Capital Cost and Operating and Maintenance Guaranties
- TIFIA Subordinate Pledge (Springing Lien)

- Appropriation Bonds Trust Agreement:

- Remains in effect
- Governs initial use of appropriated \$24M and Build America Bond provisions



# *Monroe Expressway – Other Documents*

- **TIFIA Loan Agreement:**

- Includes special covenants that govern the TIFIA loan

- **Official Statements:**

- Presents material information on the Bonds and security thereof for potential investors
  - Preliminary Official Statement – Circulated before pricing
  - Final Official Statement – Includes Bond rates and other terms

- **Bond Purchase Agreement:**

- Agreement between NCTA and Underwriters concerning their purchase of the Bonds



# *Monroe Expressway – Review of LGC Application Resolution*

Wally McBride

Hunton & Williams



## *Monroe Expressway – LGC Application Resolution*

Revenue Bond Act requires that revenue bonds thereunder be approved by the North Carolina Local Government Commission (the “LGC”)

### NCTA Board Resolution:

- Authorizes application to the LGC for approval of the issuance of non-recourse toll revenue bonds in one or more series under the Revenue Bond Act for the purpose of financing remaining costs of the Project



# *Monroe Expressway – LGC Application Resolution*

## NCTA Board Resolution Findings:

- The issuance of the 2016 Bonds for the purpose of financing the Project is both necessary and expedient
- The Project is feasible
- The amount of debt to be incurred in connection with the Project, and the fees to be paid in connection therewith, are sufficient but not excessive for the purpose of completing the Project
- The Authority has not defaulted on any debt obligation
- The Authority follows the debt management guidelines of the North Carolina Local Government Commission
- The anticipated toll revenues, based on a professional traffic and revenue study for the Project, will be sufficient to service the proposed 2016 Bonds payable therefrom
- The proposed 2016 Bonds may be issued at reasonable rates of interest

